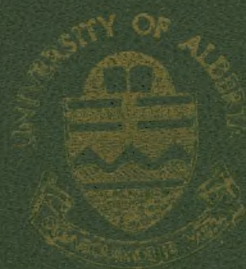


A HISTORY OF THE FACULTY OF AGRICULTURE

THE FIRST FIFTY YEARS



A HISTORY OF THE FACULTY OF AGRICULTURE

1915 - 1965

EDITED BY W. EARL BOWSER

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THE
FACULTY OF AGRICULTURE
UNIVERSITY OF ALBERTA

1915 — 1965

FOREWORD

The Faculty of Agriculture, University of Alberta, was established in 1915 with a full time staff of two; today (1965) there is a full time academic staff of thirty-eight. Student numbers have grown from sixteen in 1915 to almost two hundred and fifty today; and the physical plant from an office in the Arts building to office and laboratory space that today covers over fifty thousand square feet of floor area. It has, we submit, also grown much in stature.

This volume is written for the archives. To future readers we say: We hope you find here something of interest, something of value, and above all that the judgment of time will vindicate our belief that it was worthy of record.

439627

1915 - GOLDEN JUBILEE - 1965

FACULTY OF AGRICULTURE

UNIVERSITY OF ALBERTA



EDMONTON, ALBERTA
CANADA

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January 16, 1965.

INTRODUCTION

Fifty years in the life of a University Faculty may seem a short span when measured against the total sweep of human history, but the Faculty of Agriculture at the University of Alberta can take pride in what it has achieved in its first half century of service to the people of this province.

The narratives presented in this volume record the contributions of the men who had the privilege of laying the foundations of the various Departments which make up the Faculty today. They were the real pioneers, most of whom worked almost alone to improve the known breeds of animals and of plants and to adapt them to Alberta's needs, to study the soils of the province so that they might be made rich and fertile or avoided in the planning of new homesteads and settlement areas.

Today the approach to the problems of agriculture has become more sophisticated and the empirical methods of an earlier day have been replaced by research of a more fundamental nature which can be applied to problems of biology on a much broader scale. This has not meant that the needs of agriculture have been forgotten, but simply that the vast storehouse of scientific information has been drawn upon to meet those needs more effectively than ever before. The result has been that the bulletins prepared for the information of local farmers within the province are no longer the only contributions of the Faculty. Today's research is published in journals which have a national or international circulation and the reputation of many of the staff members is world wide.

The momentum achieved in these first fifty years will increase, but lest we forget the pioneers and their efforts, these pages have been prepared by the agricultural scientists of the present as a tribute to the past and a challenge for the future. On the hands and minds of today's students and younger staff will depend the reputation of the University, the enrichment of knowledge, and the sustenance of a world where the provision of food will be an ever growing problem in the years ahead. To them too this history is dedicated.

G. F. Bentley



Walter H. Johns,
President.

Tuesday, February 16, 1965.

A HISTORY
OF THE
OFFICE, DEAN OF AGRICULTURE
UNIVERSITY OF ALBERTA

to 1965

by
C. F. Bentley

DEAN'S OFFICE - FACULTY OF AGRICULTURE - UNIVERSITY OF ALBERTA

A history of the Dean's Office, Faculty of Agriculture, University of Alberta, is rather easily recounted because of the few incumbents in that position during the first fifty years.

The Faculty came into being with the appointment of Ernest Albert Howes as Dean, effective May 1, 1915. Dean Howes had 'An Assistant' appointed at the same time, George Harcourt; "a Dean without a Faculty, apparently requiring special assistance", as Dean Howes wrote shortly before his death.

During the 25 years that Dean Howes spent establishing and building the Faculty of Agriculture there was never an agricultural building wherein the Dean's office would obviously have been located. Rather literally, the location of the Dean's office migrated around the campus. During the first years Dean Howes had his office in Athabasca Hall. Later the Faculty offices were behind the stage of Convocation Hall. When the author was a freshman (1936) students were informed, after registering, that the Dean wished to meet them individually in his office, Room 203 Arts Building. Briefly, in the early 1940's, Dean Robert Newton had Arts 150 as his office before moving to Arts 246 where, for the first time, the Dean's secretary was accommodated in the same office as the Dean. Because the Arts Building had no elevator, provision was made in the summer of 1950 for Dean Sinclair to occupy an office in Hut F, where there would be no stairs for him to climb. However, Dr. Sinclair's continuing illness prevented his return and the Hut F Office did not become the Dean's Office. When the Agriculture Building was occupied in 1954 Room 250 became, and still is, the Dean's Office.

There have been only five Deans during the first 50 years of the Faculty.

Ernest Albert Howes was an Ontarian of Irish ancestry. A graduate of the Ontario Agricultural College, Howes came to Alberta in 1913, as Principal of the Vermilion School of Agriculture, by way of the University of Nevada. Before that he had taught school in Ontario where he originated the school garden program which spread throughout the province. In 1915 he was persuaded to remain in Alberta and become the Dean of the Faculty of Agriculture, University of Alberta, when Nevada was attempting to arrange his return to that state. The 25 years of Dean Howes' leadership saw the Faculty established, through World War I and the depression, and into World War II. Scientific agriculture in Alberta, and graduates from the Faculty have had a very high rating in Canadian Agriculture. In large measure this has been because of the remarkable job Dean Howes did in assembling first class people as staff members and in guiding departments into activities closely related to Alberta's and Canada's needs. He died in early 1940. Dean Howes was an affable, friendly man, a widely known public speaker, a raconteur par excellence, who while leading Agriculture forward had a fond regard for old friends and old ways as revealed in his book "With a glance backward".

Dr. Robert Newton was Dean for only a brief period. He was the oldest member of a remarkable Quebec family, all five of whom obtained

Ph.D. degrees in Agricultural disciplines. Dr. Newton was a Macdonald College graduate and obtained his M.Sc. and Ph.D. from the University of Minnesota. He also obtained the D.Sc. from the University of Alberta. Dr. Newton had been Head of the Field Crops Department, University of Alberta, during the 1920s and served for ten years as Head of the Applied Biology Section of the National Research Council before accepting the invitation to become the Dean of Agriculture following the death of Dean Howes. Dr. Newton became Acting President of the University of Alberta in the fall of 1941 and President of the University in 1942. He was a tall, rather slight man, of erect carriage; a meticulous, somewhat reserved, scientist who effectively advanced the frontiers of science in Agriculture. Following his resignation as President of the University of Alberta Dr. Newton served briefly as the Director of the Research Council of Alberta before retiring to the west coast. At present (1964) he resides in Vancouver.

Dr. Robert David Sinclair was the first graduate in Agriculture from the University of Alberta to become Dean of the Faculty of Agriculture. He was appointed Acting Dean in 1941 and Dean in 1942. Dean Sinclair, possibly the most widely known and most respected staff member the Faculty of Agriculture has had, came from the Innisfail district and was a member of the first graduating class in Agriculture at the University of Alberta. He did graduate work for the M.Sc. at Iowa State College and for the Ph.D. at Aberdeen. Dr. Sinclair was an outstanding Animal Scientist, swine being his special interest. He died in the fall of 1950. Dean Sinclair was a deeply human man, an outstanding teacher, a naturally excellent extension and public relations person whose research interests and motivation were to assist people and Agriculture.

The second Alberta graduate to become Dean of Agriculture was Arthur Gilbert McCalla. Raised in the Bremner district just east of Edmonton, Dr. McCalla obtained the B.Sc. and M.Sc. degrees at Alberta before going to California for the Ph.D. in Plant Biochemistry. Dr. McCalla became Head of the Department of Field Crops in 1941. During his tenure of that position the Department name was changed to Department of Plant Science. He was appointed Dean of the Faculty of Agriculture in the spring of 1951 and continued in that position for eight years. During the last year and a half of that period he was simultaneously Dean of the Faculty of Graduate Studies, the position which has taken his full time since the spring of 1959. Dr. McCalla, a vigorous decisive person, drives right at the heart of a problem and constantly seeks progress and improvements for Canada.

The present Dean, and author of this account, was appointed Associate Dean of the Faculty of Agriculture in the fall of 1957 and became Dean in the spring of 1959. Dr. Bentley grew up in the Looma area, about 20 miles southeast of Edmonton. He specialized in soil science obtaining the B.Sc. and M.Sc. from Alberta and a Ph.D. from Minnesota. He served briefly on the Faculty at the Universities of Minnesota and Saskatchewan before returning to the Department of Soil Science, University of Alberta, in 1946.

There have been a number of occasions when there have been Acting Deans, Dr. F.A. Wyatt, Professor of Soil Science, served in that position from the time of Dean Howes death until Dr. Newton's appointment in 1940. Professor E.H. Strickland, Professor of Entomology, was Acting

Dean from the fall of 1949 until the spring of 1950 when ill health prevented Dean Sinclair from carrying on. Dr. J.D. Newton, Professor of Soil Science, and a brother of former Dean and President Newton, was Acting Dean from the fall of 1950, following the death of Dr. Sinclair, until Dean McCalla's appointment in the spring of 1951. During the last part of 1962 Dr. L.W. McElroy, Professor of Animal Science, was Acting Dean for three months while the Dean was on leave-of-absence to serve in Thailand for the Food and Agriculture Organization of the United Nations.

Professor Harcourt's record of 20 years as Secretary of the Faculty remains unequalled. He served from 1915 until late 1934. Dr. A.R. Robblee is Secretary of the Faculty now, a position he has filled since 1952. It is an unofficial position and the major responsibility is to edit the minutes of the Faculty Council as prepared by the Dean's Secretary from her shorthand notes. Other individuals who have been secretary of the Faculty for short periods include Drs. J.W. Boyes, D.R. Clandinin, W.L. Dunkley and C.F. Bentley.

Competent secretaries often make virtually invaluable contributions which are inadequately known. Immediately prior to 1928 Dean Howes' secretary was Miss Betsy Lewis who held that post for at least four years. Before that the Dean's secretaries had included Dorothy May and Mrs. Fife. In the spring of 1928 a new era began. Mary Nairn, who had already worked in the Bursar's Office for four years, became Dean Howes' secretary. For the next 32 years Mary made a tremendously valuable and highly appreciated contribution as the Secretary to the Deans of Agriculture. She became Mrs. W.B. Crawford in December 1948 and resigned in June 1960 because of her husband's transfer to Calgary.

Mary Crawford had, and has, a fierce pride in, and loyalty for the Faculty of Agriculture, its students, staff and graduates. She had the sharpest of eyes for details and any staff member with an error in calculation of grades was sure to be caught! In many other ways her contributions within the Faculty were unique. Mary's outstanding work was truly appreciated by those with whom she had worked and upon the occasion of her resignation she was the recipient of a handsome gift certificate consisting of the contributions obtained by a self-appointed committee which had contacted all University of Alberta graduates in Agriculture. That act, rather than the amount of the gift, indicated the exceedingly high regard in which Mary was held by staff and students alike. Ruth Drake, who became Mrs. R.W. Smith a year later, succeeded Mary Crawford as the Dean's secretary. Ruth resigned in early 1963 for family reasons and the Dean's present secretary, Phoebe Hines, was appointed in the spring of 1963.

The Deans of Alberta's Faculty of Agriculture have been widely known in Canada. President Newton and Dean McCalla were elected Fellows of the Royal Society of Canada as a consequence of their outstanding research work. In 1943 Dean Sinclair was one of Canada's representatives at the Hot Springs, Virginia, Conference which laid the foundations for the Food and Agriculture Organization of the United Nations. Deans Howes, Newton, Sinclair and Bentley all served as President of the Agricultural Institute of Canada. In 1958 Dr. McCalla spent about five weeks in Japan on a special assignment for the Canadian Wheat Board. Fellowships in the

Agricultural Institute of Canada conferred on Deans Newton, Sinclair and McCalla are further indications of the high regard in which those men had been held by their fellow agronomists.*

The curriculum in Agriculture at Alberta has undergone a great evolution in the first half century, and it would be inappropriate to conclude this review without reference to the program of studies.

The Alberta Schools of Agriculture were established in 1913 and the first graduates of those Institutions received their diplomas in the spring of 1915. Some of the School graduates wished to continue their Agricultural education and that pressure led to the establishment of the Faculty of Agriculture. Dean Howes has recorded that location of higher education in Agriculture at the University, rather than as a separate Agricultural college, and in Edmonton, were both hotly debated matters. Initially, the three year program at the University was designed to follow the vocational education of the Schools of Agriculture and led to the B.S.A. degree (Bachelor of Scientific Agriculture). Sixteen students registered in the fall of 1915, and ten were in the first graduating class in 1918. It is surprising that more of the first students did not fall by the wayside as many had little high school education. The first students took courses in Botany, Bacteriology, Chemistry, English, Geology, History, Mathematics, Physics, and Zoology in addition to agricultural courses such as Animal Husbandry, Farm Machinery, Field Husbandry, Horticulture, Rural Economics, Soils and Veterinary Science. There was an opportunity for some 'specialization' in the third year.

Until 1920 admission to the three year Faculty of Agriculture program was on the basis of the School of Agriculture diploma. In 1920 students with junior matriculation (that is who had completed Grade 11) were admitted to a four year degree program in Agriculture while those with the School of Agriculture diploma continued to complete the degree in three years. The degree, Bachelor of Science in Agriculture, replaced the B.S.A. degree in 1924 when the first students from high school graduated from a four year program, which corresponded to the requirements in other faculties. By that time the Faculty had Departments of Animal Husbandry (1916), Field Husbandry (1917), Soils (1919), Agricultural Engineering (1920), Dairying (1921), and Entomology (1922). Special instructors gave lectures in Poultry and Veterinary Science.

After 1924 students from the Schools of Agriculture were required to have Grade 11 as well as the diploma from the School of Agriculture, and the students admitted on that basis also received the B.Sc. degree when they graduated. However, the School of Agriculture students continued to earn the degree in Agriculture in three years while students from high schools required four years. During the first two years students from high schools took courses in Animal Husbandry, Field Crops, Horticulture, Poultry and so forth for which graduates of the Agriculture Schools were given credit. All students took the same Arts and Science courses such as Botany, Chemistry, English, Mathematics and Zoology.

*Editor's note: Dean Bentley received the Outstanding Achievement Award, an honor accorded graduates who have attained eminence and distinction in their field, from the University of Minnesota in 1961.

A major change was made in 1941 when students entering the Faculty of Agriculture from high schools were required to have senior matriculation (that is Grade 12) as was the case in other faculties. At the same time the course was extended to four years for the students from Agriculture Schools. Currently (1964) students from Schools of Agriculture constitute only about five percent of the students entering the Faculty and they must present at least three Grade 12 Science courses for admission in addition to their School of Agriculture diploma. For the degree such students must meet the same four year curriculum requirements as students from high schools.

Until the fall of 1961 the basic structure of the curriculum remained similar to the original arrangement: all students were required to take specified courses in Arts and Science together with a designated course in each Agriculture department during the first two or three years; thereafter students could elect a considerable number of their courses, depending on their individual areas of interest. Of course the actual content of the Agriculture courses has undergone a tremendous evolution since their inception --- as have the Arts and Science courses too!

In 1961 a single six hour per week course in Agriculture, to which all departments in the Faculty and the Dean contributed, replaced previously required Agricultural courses which had taken a total of twenty-seven hours of undergraduate student time. This drastic change was designated to enable inclusion of more Arts and Science courses in the first two years so that the Agriculture courses to follow could be presented at a more technical level, and to enable students to have a very much wider selection in the courses they wished to take. The Agriculture course requirements are specified in terms of numbers of courses and numbers of areas which must be met rather than in terms of specific courses or departments. In the 1960-61 academic year thirteen of the minimum of twenty examination courses required for graduation in the Faculty were ones specifically required. In 1964-65 only five of the minimum of twenty courses required for graduation will be specifically required ones.

Finally a few comments about the graduates in Agriculture from the University. For a round figure 1250 graduates have received the B.S.A. or the B.Sc. in Agriculture. Although it is increasingly difficult we do our best to keep up-to-date information about the graduates and their activities. It is doubtful that any other faculty has such a high proportion of graduates with advanced degrees. About twenty-four percent of our graduates have earned an M.Sc. degree. Between eleven and fourteen percent have the Ph.D. degree. Moreover, the first Ph.D. awarded by the University of Alberta was to a graduate student in the then Plant Science Department and, until the fall of 1961, more Ph.D.s had been awarded to students in that Department than in any other Department in the University.

Alberta agricultural graduates are literally all over the world as some of our graduates are on every continent. Their occupations are equally diverse and include: Master Farmers, university deans, President of an oil company, a Senator, senior F.A.O. officials, senior National Research Council scientists, an Imperial Chemical Industries director and personnel throughout the public and private sectors of Canadian agriculture. The most recent tabulation of our graduates has shown: 19% with the Canada Department of Agriculture and other federal agencies; 12% in

the employ of provincial governments; 7% at universities; 5% teaching; and most of the balance in commercial employ or self-owned businesses (including 18% farming or managing farms).

The versatility of graduates in Agriculture and the high educational value of their broad grounding in the physical, biological and social sciences, is illustrated by the positions our graduates hold at the University of Alberta itself. Two of the deans, besides the Dean of Agriculture, are Agriculture graduates. Another graduate is the first head of the newly created Economics Department. The first degree of one of the Associate Professors of Civil Engineering is in Agriculture. There are also agricultural graduates as Assistant Professors in Biochemistry (Faculty of Medicine) and in Education. And one of our graduates, with an M.Sc. from our Faculty too, is an Associate Professor of Household Economics.

#

Nearly twenty years ago Dean Sinclair wrote:

"In a sense the first year of the agricultural course was experimental. There were some misgivings as to the advisability of training agricultural students along with other groups on a University Campus. The traditional procedure in Canada favoured the plan of having an Agricultural College as a separate unit located in a more rural atmosphere so that "Agriculture would be insulated against urban influences". The advantages of having Agriculture incorporated as a part of the University mechanism soon became apparent. Students in Agriculture were able to broaden their outlook through association with students of other Faculties in the University and they in turn were able to make their contribution to the various phases of student life on the campus. The same was true in the case of members of the Faculty. Instruction in science and arts subjects could not help but be broader and less subject to bias when students from several Faculties met in a common classroom. The possibilities for co-operation and consultation in connection with research were clearly indicated at an early stage. It was not long until it became evident that the experiment was going to have a successful outcome."

Last year in response to a request from a good friend of the Faculty of Agriculture, staff members submitted examples of the benefits to agriculture from some of the research of departments in the Faculty. The following are among the most easily cited of those examples:

	Estimates of income or savings per year*
1. Effect of swine breeding research on grade of Alberta pigs -	\$ 800,000
2. Potential net value of cross breeding procedures in swine production -	1,000,000
3. Feed savings from improved swine rations and management -	700,000
4. Feed savings to feedlot operators from information on cattle feeding and management -	900,000
5. Potential increase in beef production from sire progeny testing work -	300,000
6. Minimum Canadian value of improved nutritive value of protein supplements resulting from U. of A. research on processing methods -	1,250,000
7. Feed saving to poultry producers from use of riboflavin in rations -	700,000
Value of improved hatchability of eggs as a result of riboflavin use -	100,000
<p>THE USEFULNESS OF SYNTHETIC RIBOFLAVIN IN POULTRY RATIONS WAS AN ORIGINAL UNIVERSITY OF ALBERTA DISCOVERY AND THAT KNOWLEDGE IS NOW USED BY THE FEED TRADE ON A WORLD BASIS.</p>	
8. If only 1% of net benefits from fertilizer use in Alberta were attributed to University of Alberta work, the value would be about -	500,000
9. Applications of Breton Plot results, if farmers obtained returns only 1/3 as great as those at the Breton Plots -	200,000
10. Savings of chemicals and labor by immersion cleaning of milking equipment on 400 farms -	80,000
11. Among the varieties of cereal and forage crops either introduced or developed by members of the Faculty of Agriculture, University of Alberta, are the following: <u>Wheat</u> : Renfrew, Red Bobs, Canus, and Kenhi. <u>Oats</u> : Victory. <u>Barley</u> : Newal, Sanalta, Tital, Gateway, and Gateway 63. <u>Rye</u> : Sangaste. <u>Flax</u> : Redwing. <u>Forage</u> : Swallow timothy, Altaswede Red Clover, Ferax alfalfa, and Frya ryegrass.	

The benefits of new varieties are very difficult to estimate because the advantages may be one or more of: disease resistance,

* Conservative figures based on returns or savings to Alberta farmers unless otherwise indicated.

yield increases, earlier maturity, reductions in lodgings,
and better quality.

12. In addition to the foregoing University of Alberta
research has established the impracticality of the Wm.
Pearce Irrigation Project enabling Government to resist
pressures for its development at an eventual total cost
over several years of about - 40,000,000

The proud record of accomplishment and contribution by the
Faculty of Agriculture and its graduates over the first fifty years
have justified the confidence of those who rightly placed higher
education in Agriculture at the University of Alberta.

C. F. Bentley
June, 1964



... 1940



... 1941



R.D. SINCLAIR 1941 - 1950



... 1951



... 1952

1. The University of Alberta

FACULTY OF AGRICULTURE
1915



EDMONTON
The University of Alberta Printing Press

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the year. The subject for these will be derived from class discussion of the selections in Roe and Elliott: *English Prose* (Longmans).

The following texts will also be studied with special regard to the principles of composition which they illustrate:

A Century of English Prose (Harcourt & Co.)
Swift's Letters (Macmillan)
Butler's Sermons (Macmillan)
Southey's Letters (Macmillan)
Southey's Letters (Macmillan)

General Elementary Physics. 3 hours lect.

The more important principles of mechanics, properties of matter, heat, sound, light, magnetism and electricity will be treated in an elementary manner and illustrated by experiments.

Physical Laboratory. 3 hours lab.

Elementary experiments, some of which are directly related to the practice of agriculture, will be performed by the students to illustrate the subjects dealt with in the classroom.

Mathematics. 3 hours lect.

The course consists of mathematics required by the student in his work in physics, chemistry, agricultural engineering and surveying.

Topics include: mensuration, fundamental principles of algebra including trigonometrical representation and methods of computation, elementary trigonometry including the solution of triangles.

Elementary Chemistry. 3 hours lect.

A study of the most important elements and their compounds, particularly the non-metals and the metals of special interest to agriculture, as well as those of the laws and theories of chemistry and the application of chemistry to agriculture.

Text Books: Alexander-Simpson, *General Chemistry* (Macmillan); *Chemistry* (Macmillan); *Principles of Chemistry* (Macmillan).

2.

FACULTY OF AGRICULTURE

OFFICERS OF INSTRUCTION

HENRY MARSHALL TOWN, M.A., D.Sc., LL.D., F.R.S.C.,
President

ERNEST ALBERT HINES, B.S.A., (C.A.S.),
Dean of Faculty

ERNEST KILMER BROWN, M.A., (Chemp.), Ph.D., (Harvard)
Professor of Field Husbandry

ADOLF LUTER, FERNANDO LUTER, B.S.A., (C.A.S.),
Ph.D. (Leningrad)
Professor of Chemistry

ERNEST WILSON SULLIVAN, M.A., (McGill), Ph.D., (Yale),
Professor of Mathematics

FRANCIS JOHN LEVIN, D.Sc., (Lumpsum), F.R.S., (Edin.),
Professor of Biology

ROBERT WILLIAM BOYLE, M.A., Ph.D., (McGill),
Professor of Physics

GEORGE HARRISON, B.S.A., (Guelph),
Assistant to the Dean

SPECIAL LECTURERS IN ANIMAL HUSBANDRY FOR THE YEAR 1915/1916.

HENRIE A. CHASE, B.S.A., (Guelph),
Disting. Member of Agriculture

ALEXANDER CALVERT,
Sept. of Farm and Industries

3.

FACULTY OF AGRICULTURE

I.—Course leading to a Degree.
In the Faculty of Agriculture courses are offered leading to the degree of B.S.A.

II.—Admission.
Candidates for admission to the Faculty of Agriculture must have a certificate of entrance to a degree course granted by the Board of Agricultural Education and the University of Alberta, or such other certificate as may be determined by the Faculty.

III.—Course of Study.
The course of study leading to a degree covers a period of three years.

FIRST YEAR
The details of the first year's course are as follows:

Animal Husbandry. 3 hours lect. 3 hrs lab.
Breeds of live stock — their history, development and characteristics, a study of outstanding individuals in each class.

Market classes of live stock—judging of market types, a study of market classes with particular attention to Alberta conditions.

Stock farm management—systematic treatment of the various phases of stock raising.

Field Husbandry. 2 hrs lect.
Cereal crops, grasses, clovers, forage crops and their uses, their history, characteristics, methods of sowing, cultivation and harvesting, adaptations to Alberta conditions, soil values.

English and Composition. 3 hours lect.
The writing of weekly essays will be required throughout the year.

6.

VI.—Residence.

Residential accommodation is provided in the University. Unless by special permission all students not living with parents or guardians must reside in the University buildings.

Room per month \$8.00
Board per week 4.75

VII.—General Rules.

For regulations regarding attendance, discipline, examinations, etc., see University calendar.

5.

Chemical Laboratory.

The setting up of apparatus, quantitative preparations and estimation of a few substances to illustrate some of the fundamental laws of Chemistry. Introduction into qualitative chemistry with a view to a study of the general methods of analysis. Qualitative and quantitative analysis, the standardization of reagents, absorption, acid, base, iron and chlorine, sampling and preparing samples for analysis.

Text Books: Kennard and De Lury, *Elementary Laboratory Chemistry* (Macmillan); *Notes Qualitative Analysis* (Libby); *Qualitative Analysis* (C. C. Van Nostrand); *Quantitative Analysis* (McGraw-Hill Book Co.).

General Elementary Botany. 2 hrs lect. 3 hrs lab.
The course is intended as a foundation for all senior courses in botany. It includes the structure and physiology of the cell, the life history of the plant, the structure and physiology of the root, the structure and physiology of the stem, the structure and physiology of the leaf, the structure and physiology of the flower, the structure and physiology of the fruit, the structure and physiology of the seed, the structure and physiology of the embryo, the structure and physiology of the young plant.

Text Books: *Principles of Botany* (C. G. Bailey); *Botany* (C. G. Bailey); *Botany* (C. G. Bailey); *Botany* (C. G. Bailey).

SECOND AND THIRD YEARS.
The courses for the second and third years will appear in the calendar for 1916/17.

Registration.
Registration day: Sept. 27th.
Registration begins: Sept. 28th.
Registration should be completed on or before Sept. 30th.

V.—Fees.
Tuition \$5.00
Board 5.00
Students Union

FROM 1965 CALENDAR

PROMOTION

ADMISSION

Matriculation Requirements

Students from the high schools of Alberta seeking admission to the Faculty of Agriculture will be required to present either—

I.—The High School diploma with "B" or higher standing in the following courses and an average in them of at least 60.0%:

1. English 30.
2. Social Studies 30.
3. Mathematics 30.
4. 5. and 6. Three of: Biology 30* Chemistry 30** Physics 30 French 30, or German 30, or Latin 30, or another language at an equivalent level.

or

II.—A diploma from a Provincial School of Agriculture, together with "B" or higher standing in Literature 20; Language 20; Social Studies 20; one of French 20, German 20, or Latin 20, or another language at equivalent level; Mathematics 30; and two of Biology 30 (or Biology 32*), Chemistry 30*, or Physics 30; with an average in the three Grade XII courses of at least 60.0%.

It is advantageous to have Mathematics 31 also.

Students who completed Grade XII in 1964 or earlier will be given full consideration for admission. They are advised to write to or to see the Registrar of the University and to provide a complete transcript of their high school records.

Candidates from outside Alberta will be required to meet equivalent standards.

These general regulations notwithstanding, the University may in its discretion refuse admission to any applicant. For example, this regulation normally will be applied in cases where applicants have written an inordinate number of examinations in order to attain nominal entrance requirements at the University of Alberta.

PROMOTION

1. Inasmuch as a rigid year system is not followed in the Faculty of Agriculture, promotion from year to year is made by Faculty Council upon the recommendation of the Agricultural Revisions Committee.
2. In general, promotion to the third year in Agriculture will be granted only to students who have passed all first and second year subjects required; exception may be granted when a student has passed all first and second year subjects but one and has an average standing for the two years of at least 60.0%.

*Biology 32 will be accepted until and including September, 1965, only. Students offering that course will be required to take Biology 130 in their first year.

**Chemistry 30 was previously required. Any student not offering this course will be required to take Chemistry 130 as well as Chemistry 230.

In order to exclude courses in excess of the minimum requirement from the contract for graduation, the student must designate such courses as "extras" at the time of registration for the final year.

6. Changes in registration can be made only by arrangement with the Registration Committee before November 1 in the case of full-year or first-term courses, or before February 15 in the case of second-term courses.

ACADEMIC STANDING REQUIRED FOR GRADUATION

1. After the requirements of the first two years have been met, students must obtain a passing mark or better in 10 full courses or equivalent and obtain an average of 60.0% in those courses.
2. A student will not be allowed to write more than the equivalent of three full course supplemental examinations whether for the purpose of obtaining passing marks or of raising his average to the required 60.0%.
3. A student will not be allowed to write more than the equivalent of two full course supplemental examinations in any year.
4. A student who is repeating a year will be granted no supplemental privileges in the courses taken that year and must pass all courses with a 60.0% average to be allowed to continue.
5. The privilege of repeating a year will be granted to a student not more than once during his candidacy for a degree in this Faculty, unless by special permission of the Faculty of Agriculture Council.

Attention is directed to the regulation that a student is responsible for the completeness and accuracy of his registration.

Preferred Second Year Electives for Specialization in Various Departments

Agricultural Economics	Agricultural Engineering	Animal Science	Dairy Science
Ag.Ec. 300, 315 Ag.En. 240, Econ. 300 Ento. 300, Gen. 300 Stat. 305, an approved social science elective.	Ag. Eng. 240 Ag.Ec. 303	Micro. 201 and Genetics 300 or approved elective(s)	See Dairy Science
Entomology	Genetics	Plant Science	Soil Science
None Specified	Genetics 351 or Micro. 201 and Genetics 300	Micro. 201 and Genetics 300 or approved elective(s)	Micro. 300 Soil Sci. 240 and 250

Third and Fourth Years

The general requirements for the various programs of specialization are given in the following sections. Students entering the third year must consult the departments in which they plan to specialize and it is highly desirable to

1965

TENTATIVE REGISTRATION - FACULTY OF AGRICULTURE

NAME _____

DATE _____

PRESENT YEAR OF COURSE _____

Pre-V.M.
Agr.

HIGH SCHOOL	FIRST YEAR	SECOND YEAR	THIRD YEAR
Biology 30	(A) One of: Biology 130	(A) One of: Genetics 351	Five Full Courses (See Calendar)
Chemistry 30	Chemistry 130	Microbiology 360	1
Physics 30	Approved Option	Entomology 201	2
Language 30		Bact. 201 & Genet. 360	3
Mathematics 31	(B) Required courses: English 210	Ent. 200 & Genet. 360	4
English 30	Math. 180 or 201		5
Mathematics 30	Chemistry 230	(B) Two of: Chemistry 350	6
Social Studies 30	Economics 200	Mathematics 220	7
	Physical Education	Or Biomet. 455	8
	Agriculture 202	Or Stats. 255	9
	Agriculture 203	Or Stats. 305	10
	(Total of 5 full Courses excluding Ag. 202 and 203)	Physics 100 or 200	11
(Issued February, 1965)		A social science:	FOURTH YEAR
			Five Full Courses (Mark "Extras")
		A biological science:	1 Agric. 451
			2
		(C) Two half courses in an agr. dept., or equivalent	3
			4
			5
			6
		(D) Approved electives to five full courses (& 10 for 1st & 2nd yrs)	7
			8
			9
			10
			11
			Field Trip Sept., 19 ____

FIELD OF SPECIALIZATION

Check Departments being met in 2nd, 3rd & 4th years.

Agric. Economics	Entomology
Agric. Engineering	Genetics
Animal Science	Plant Science
Dairy Science	Soil Science

(Minimum = Dept. of Spec. + 4 others (at least 6 half courses.)

IF TAKING GENERAL PROGRAM CHECK HERE _____ and check above the Depts. being met. Minimum = 6 (at least 12 half courses)

APPROVED

For those specializing:

Department _____

For those taking General Program get approval from a Registration Committee member (J.A. Toogood, S. Pawluk, D. Clandinin, E.P. Toop, or B.T. Stephanson)

Approved by _____

A HISTORY
OF THE
DEPARTMENT OF AGRICULTURAL ECONOMICS
UNIVERSITY OF ALBERTA

to 1965

by
Travis W. Manning

AGRICULTURAL ECONOMICS

Although agricultural economics is new to the Faculty of Agriculture, courses in the subject have been offered at the University for some 40 years. Prior to the mid-1930's, these courses were taught by various members of the Department of Economics. Dr. Andrew Stewart was the first agricultural economist to be appointed in this capacity at the University of Alberta. Dr. Stewart later became Head of the Department of Economics and still later President of the University. In the position of agricultural economist, he was succeeded by Dr. William Mackenzie. Dr. Mackenzie resigned in 1962 and his position was filled by Dr. Eric R. Berg.

In 1960, Dr. Gordon Ball was appointed Professor of Farm Management in the Faculty of Agriculture. Some courses were transferred from the Department of Political Economy to the Faculty of Agriculture and some new ones were added. Although Dr. Ball resigned in 1961, he can be credited with supplying the impetus to establish agricultural economics on a more formal basis, both in the Faculty of Agriculture and in the Alberta Department of Agriculture. Dr. Ball was largely responsible for the creation of the Department of Agricultural Economics in 1961.

The first appointment in the new department was Dr. Travis W. Manning, who became Head of the Department in January 1962. Later in the year, Dr. Harold C. Love was appointed as a professor, specializing in farm management and production economics. Dr. George R. Winter was appointed as associate professor in 1963, specializing in agricultural business. In 1964, Mr. Paul A. Jenson was appointed as a lecturer with general teaching responsibilities. Dr. Wolfgang M. Schultz was appointed as associate economist in the area of production economics and Dr. Walter B. Rogers as associate economist in the area of resource economics.

While the academic staff expanded from none at the beginning of the 1961-62 period to six in 1964 the non-academic staff grew to three secretaries, one technician, and ten graduate assistants. A concomitant expansion occurred in the physical facilities and functions of the department. At the undergraduate level, the number of students in agricultural economics increased from 12 to 30 in three years. The first graduate student started in 1962 and by 1964 there were 12 in the department.

The instructional program of the department has developed considerably during its brief history. Authorization to offer a program for the Master of Science degree was granted in 1962. A number of graduate level courses were added to support the new program. The number of courses offered at the undergraduate level was expanded in 1963-64 to provide for greater specialization in agricultural economics. The undergraduate curriculum was greatly modified in 1964 to permit greater flexibility in adapting programs to the needs of students.

The department offers a general curriculum in agricultural economics and specialized options in farm and ranch management and in agricultural business. The general curriculum is offered for students who do not wish to specialize and it is most appropriate for those who will proceed to graduate studies. The other options are designed as terminal courses although graduate studies are not precluded. The farm and

ranch management option is designed for students interested in farm and ranch operation, farm credit, land appraisal, and other farm related occupations. The agricultural business option is designed for students interested in the operation of agricultural marketing, processing, and farm supply businesses.

The research program in agricultural economics has matched the expansion in staff numbers and teaching activities. The following projects were underway in 1964:

1. A Study of Livestock Price Fluctuations in Major Alberta Markets. T. W. Manning.
2. A Structural Analysis of Livestock Marketing Practices in Alberta. T. W. Manning and P. A. Jenson.
3. Derivation of Fertilizer Response Surfaces. H. C. Love.
4. Farm Income and Population Characteristics in Alberta. T. W. Manning.
5. Estimation of Variability of Yield, Price and Gross Income per Crop Acre for the Major Crops in Alberta by Crop Reporting Districts for the Post War Period, 1947 to date. H. C. Love.
6. Risk and Uncertainty Considerations for Selected Livestock Enterprises. H. C. Love.
7. An Economic Benefit Analysis of an Established Irrigation District in Southern Alberta. T. W. Manning and W. B. Rogers.
8. Farm Production Trends and Prospects in Alberta. T. W. Manning and W. M. Schultz.
9. Survey of Agricultural Businesses. G. R. Winter.
10. Ownership vs Leasing as Alternative Methods of Resource Acquisition. H. C. Love.
11. A Study of Economic Growth in Agriculture. T. W. Manning.
12. Crop Yield as Related to Several Variables; Determination of Economic Optima; Certain Aspects of Crop Quality--Interdisciplinary Research Project. Gordon Webster and James Robertson, Soil Science; and H. C. Love.

The Department's research work is supported partly by university funds and partly by grants from the federal and provincial governments and various private agencies. The Agricultural Economics Advisory Committee, comprised of 17 leading farmers in the province, has been especially helpful in developing the research program and conducting a campaign for research funds.

A HISTORY
OF THE
DEPARTMENT OF AGRICULTURAL ENGINEERING
UNIVERSITY OF ALBERTA

to 1965

by
B. T. Stephanson

The History of the Department of Agricultural Engineering

It is apparent that the need for instruction in Agricultural Engineering subjects was felt very early in the development of the Faculty of Agriculture.

In the second year of operation 1916-1917, a course in Farm Machinery was listed in the Faculty of Agriculture Calendar. There is no evidence to indicate that this course was actually given or if it was, who presented the course material. Again in the 1920-21 Calendar three courses in Farm Mechanics, AE1, AE2 and AE51 were listed. However, no course outline or lecture again was indicated.

It was not until the first member of the department was appointed on January 1, 1921 that course outlines - 3 courses with the titles of - Agricultural Engineering 2 - Machinery; Agricultural Engineering 51 - Buildings; and Agricultural Engineering 52 - Power, appeared in the Calendar. Professor John McGregor Smith was the first and only member of the department, from the time of his appointment in January 1921 until July 1946 when a second member was appointed.

The circumstances resulting in Professor Smith's arrival at the University of Alberta provide an interesting sidelight into the early days of this developing University. On June 8, 1920, President Henry Marshall Tory of the University of Alberta struck up a conversation with a fellow passenger on a train which was proceeding from Saskatoon to Melville, Saskatchewan. The passenger was an assistant professor of agricultural engineering at the University of Saskatchewan. The conversation lasted only for five minutes but before it was over Dr. Tory had offered the position of Head of the new Department of Agricultural Engineering at the University of Alberta to Professor John McGregor-Smith, and Professor Smith had accepted the position.

Professor Smith began his new duties on January 1st, 1921 immediately after his return from 6 months Sabbatical leave from the University of Saskatchewan. This leave was spent at the University of California at Davis.

The new Department of Agricultural Engineering was provided with temporary quarters in a temporary building where the carpenter workshop had previously been accommodated. The Department remained in this same space in the North Laboratory until 1959 when new space in the same building was renovated and allocated for its use.

The three courses that were offered in the first year were increased to four in the second year by the addition of a course in Drawing, Carpentry and Blacksmithing. However facilities for carpentry and blacksmithing were not provided so the course was dropped from the calendar after two years. The three courses in Farm Buildings, Farm

Machinery and Farm Power continued as service courses to other fields in Agriculture for approximately 30 years.

The first change took place in 1951-52 when a course titled - "Introduction to Agricultural Engineering" was offered. This course remained in the calendar until 1957-58 when it was discontinued. It was re-instated the following year with a different emphasis principally in the area of layout analysis and motion and time study.

At this point in the history of the department a major milestone was reached. The 1958-59 Calendar carried an outline of a program of specialization under the name of Industrial Agriculture. The emphasis in this program was in Production Management, Agricultural Servicing and Processing, Mechanization and Business Administration.

Six students entered this area of specialization in their second year in the Session 1959-60. They subsequently graduated in May, 1962. There were two further graduates in 1963 and four in 1964, and four more are scheduled to graduate in May, 1965.

The year 1959-60 saw a major change in the course offerings in the Department of Agricultural Engineering. These changes were in accordance with the emphasis being placed on Operations Research and **Materials** Handling. The courses offered as listed in the 1959-60 Calendar and still in effect are:-

- Agricultural Engineering 240 - An Introduction to Agricultural Engineering
- Agricultural Engineering 301 - Heating, Ventilation and Air Conditioning of Agricultural Buildings
- Agricultural Engineering 302 - Farm Structures
- Agricultural Engineering 303 - Agricultural Power Units
- Agricultural Engineering 304 - Agricultural Machines
- Agricultural Engineering 305 - Agricultural Materials Handling and Processing
- Agricultural Engineering 401 - A Project Course
(Changed in 1961-62 to Quantitative Methods in Agricultural Mechanization).

Graduate work in the department was first offered in the Calendar in 1962-63 with one student being enrolled at that time. In 1963-64 there were four students enrolled in this programme with the first Master of Science degree expected to be awarded in 1965.

The first 30 years history of the Department of Agricultural Engineering is principally the story of Professor John McGregor-Smith who began his duties here on January 1, 1921 and continued until the time of his death on April 18th, 1950.

Professor Smith was born in 1887 in Scotland where he took his early education. He then received an Agricultural degree from the University of Edinburgh. He moved to Clearwater, Manitoba in 1905 and worked for a time on a farm. He entered the Manitoba Agricultural College in 1910 in the third year of a five year programme. He was granted two years standing on the basis of his work in Edinburgh. He subsequently graduated in 1913. While at Manitoba Agricultural College he was winner of a public speaking contest and became President of the Student Body. During the summers he worked as a surveyor for the C.P.R. and on a farm at Clearwater. In 1912 he participated in the now famous Winnipeg motor contests as an observer.

Upon graduation, he went to the University of Saskatchewan under Professor A. R. Greig in the Department of Agricultural Engineering. While in Saskatchewan he was a member of the staff that travelled with the better farming trains throughout the Province to bring better farming methods to the new farmers.

In 1921 Professor Smith accepted the position as Head of the new Department of Agricultural Engineering at the University of Alberta. In the summers of 1924-25-26 Professor Smith studied at the University of Ames, Iowa working under Dr. J. B. Davidson who is commonly known as the father of Agricultural Engineering.

In 1938 on Sabbatical leave from the University of Alberta he travelled for five months through England and Scotland studying farm equipment.

Professor Smith was well known for his practical farm bulletins on subjects such as Plows and Plowing, Binder and Knotter Troubles, Header Barges, Power Problems on the Farm, and Ropework for the Farm. There were as many as seven editions and printing of some of these bulletins and copies were distributed to far corners of the world. He was also a very well known judge at plowing matches and was a popular after dinner speaker. Professor Smith was always interested in public speaking and he donated the J. McGregor-Smith public speaking trophy for annual competitions among agricultural students. A yearly competition for this trophy is still held for this trophy. As a result of the high regard in which he was held by the Agricultural Club at the University of Alberta, he was presented with an honorary life-time membership scroll in 1949.

Professor Smith was a Charter member of the Agricultural Institute of Canada and became a life-member in 1947. He was given the high honour of Fellow in 1949. He was also a member and Fellow of the American Society

of Agricultural Engineers. During the formative period of the Alberta Institute of Agrologists he took a prominent part in the introduction of this professional society.

In keeping with the increased number of courses and the offering of the Major in the Bachelor of Science programmes and the Master of Science Programme, the academic staff of the department has increased to the present complement of three.

Professor Fenton Vincent MacHardy, Head of the Department, was first appointed in September, 1950. Following resignation in May, 1952 for a period of full-time farming, he accepted sessional appointments for a few years before returning to a full-time position in the department. He was named Professor and Head in 1958. He holds degrees of Bachelor of Science, Saskatchewan, 1950; Master of Science, Northwestern, 1958, and Ph.D. Edinburgh, 1964.

Barney Thorvardur Stephanson, Associate Professor, was first appointed July 1, 1946. He holds degrees of Bachelor of Science, Saskatchewan, 1944 and Master of Science, Minnesota, 1960.

Thomas Alexander Preston, Associate Professor, was first appointed December 1, 1963. He holds degrees of Bachelor of Arts, 1950 and Master of Arts, Cambridge, 1956.

Agricultural Engineering was first brought together and defined less than 60 years ago. Of the 50 years in which the Faculty of Agriculture has been in existence, Agricultural Engineering has been a part of it for 45 years.

During this time motor trials have given way to radio-active laboratory techniques. The measure of success in equipment management may now be more efficiently gauged by a computer analysis than by the angle of repose of a furrow. The next 50 years will see further rapid change. The technological change, however, has not altered the main philosophy of the members of the department. They hope that, as in the days of Professor J. MacGregor-Smith, that the result of some of the Department's work can be measured in practical terms on the farms of Alberta.

– STAFF –

Department of Agricultural Engineering

Jan. 1921 to Jan. 1965



John McGregor Smith
Professor and Head of Department
Jan. 1921 – April 1950



Present Staff

B. T. Stephanson
Associate Professor

F. V. MacHardy
Professor and Head

E. Buehler
Technician

T. A. Preston
Associate Professor

A HISTORY
OF THE
DEPARTMENT OF ANIMAL SCIENCE
UNIVERSITY OF ALBERTA

to 1965

by
L. W. McElroy

HISTORY OF THE DEPARTMENT OF ANIMAL SCIENCE

With those who conclude that in this chronicle of the Department of Animal Science too many words are devoted to names, dates, livestock and physical plant and too few to the real history of the department (the contributions of its staff and graduates) I can have no quarrel. But, in explanation of the obvious emphasis on the less at the expense of the more important, may I state that this account was written on the premise that the real history of the first fifty years of the department is fully and permanently documented in the publications of its staff and in the performance of its graduates. Thus, the main purpose of this history was assumed to be that of attempting to trace broad outlines of development and to record for the archives some facts and figures that might disappear or prove difficult to compile by the time a history of the first one hundred years comes to be written.

The Department of Animal Science was formed in May, 1942 by the amalgamation of the Departments of Animal Husbandry, Veterinary Science and Poultry Husbandry. Outlines of the history of each of these departments will therefore precede that of the department as constituted since 1942.

Department of Animal Husbandry

The Department of Animal Husbandry began in 1915 as a 1-hour lecture, 3-hour laboratory course in "breeds of livestock . . . market classes of livestock . . . and stock farm management" with Horace A. Craig, Deputy Minister of Agriculture, and Alexander Galbraith, Superintendent of Fairs and Institutes for the Province of Alberta, as Special Lecturers. The first Professor of Animal Husbandry was Kenneth McGregor (B.S.A., Iowa State); Professor McGregor joined the Faculty in 1916, but shortly thereafter resigned to devote full time to his father's famous Aberdeen Angus breeding farms, Glencarnock and Gwenmawr at Brandon, Manitoba.

Professor A. A. Dowell (B.S.A., Iowa State), the first Head of the Department, was appointed February 1, 1917 and attended his first Faculty meeting on April 28. To the many who have served on many university committees it may be interesting, albeit not surprising, that he was forthwith appointed to serve with Dean Howes and Dr. Lewis on "a committee to bring in a report on the course of study for the third year work".

The following is quoted from an address given by Dr. Dowell at the Thirty-seventh Annual Feeders' Day, June 7, 1958.

"Only a limited amount of land, livestock, and equipment was available to the Department of Animal Husbandry at this early date. The land for livestock buildings, lots, pasture and production of feed was in the area now occupied by the Aberhart

Memorial Sanitorium and the Northern Alberta Jubilee Auditorium. This land had only recently been cleared of a dense cover of native 'popple', as it was commonly called. The only substantial livestock building was a typical frame barn with silo attached. The barn was equipped to house dairy cattle and a few work horses. In addition to the barn there was a small milkhous nearby, two or three movable frame sheds for sheep and hogs and a few movable cots for sows with litters.

"The livestock consisted of a few horses, perhaps a dozen purebred Holsteins of various ages, about half as many purebred Jerseys, a few rather common range steers purchased for class purposes, five or six purebred Suffolk ewes and a few purebred Poland China, Duroc Jersey and Tamworth hogs - representing breeds that were common in Alberta at that time."

From 1917 to 1919 Professor Dowell's office was located in Pembina Hall; from this space he was moved for a brief sojourn in an office to the rear of the stage in Convocation Hall, and in the summer of 1920 to the top floor of the west end of the North Laboratory, in which area the Animal Husbandry main office remained until 1954.

During Professor Dowell's regime the department grew to a staff of three with the appointment of J. E. Lattimer (B.S.A., Toronto) in 1918 and J. E. Bowstead (B.Sc., M.Sc., Wisconsin) in 1920 - both as Assistant Professors. By the time Professor Dowell left Alberta to join the staff of the University of Minnesota in July, 1922, the department had a considerable record of accomplishment. Eleven courses covering feeding, breeding, management, production and judging of livestock were being offered. Some twenty-five experiments dealing with livestock feeding and management problems of the time had been completed and reported. The foundations had been laid for what were to become substantial and highly regarded herds of purebred livestock and a program of exhibiting finished steers (and later breeding stock) at major livestock shows in Canada and the United States had been initiated in 1920. The first Feeders' Day was held on April 21, 1922.

As is indicated by the following quotation from Professor Dowell's annual report to Dean Howes and the President for 1920, he was obviously very enthusiastic about the program of exhibiting cattle.

"During the year 1920 the most ambitious plan ever outlined by any similar Canadian or American institution was carried through to a successful conclusion by the Department of Animal Husbandry of the University of Alberta. This experiment in cooperation between Alberta's leading livestock breeders and their Provincial University was outlined for the following reasons:

- a) to provide the students in Agriculture in this young institution with the very best classroom subject material,
- b) to interest the livestock men of Alberta in their Provincial University, and
- c) to place the work of this University on a par with the leading Canadian and American institutions."

The success of this venture, which was continued until 1955, may be summarized by quoting excerpts from an article written by Dean Sinclair in 1949 and from the 'cover story' for the Silver Anniversary of Feeders' Day.

"In 1920 a group of steers which had been donated to the University by the leading breeders of Alberta to be fed and fitted for student class work was taken to the Chicago International Livestock Exposition after they had served their time in the classroom. These steers of various breeds made a wonderful showing and attracted great attention when shown against the corn-fed cattle of the United States. American feeders who had never heard of Alberta wondered how cattle could be fitted for the International without corn." (Dean Sinclair)

"From 1922 to 1941 we had entries in either the Chicago International or the Royal Agricultural Winter Fair or both. There is no room here to list the championships we have won at the Toronto Royal, the Chicago International and the Golden Gate Exposition at San Francisco with animals many of which were bred and all of them exhibited by the Department of Animal Science. At Toronto in 1927 we swept the show.

"These exhibits have brought favorable publicity to the breeders of the Province and directed attention to what Alberta has to offer as a breeding and feeding ground for high quality cattle. Further, as the breeding program yields an increase in numbers of animals year by year surplus stock has been available for distribution to improve the quality of Alberta herds." (Silver Anniversary)

Feeders' Day was introduced with less fanfare and has been accompanied by less glamor but the interest in and value of this event have continued to grow to a current average attendance of 1500. Some 11,000 copies of annual Feeders' Day reports are now printed and distributed, mainly to farmers and experimental institutions across Canada but individuals or research organizations in 29 other countries have requested that their names be placed on the permanent mailing list for these reports.

To return to 1922, Professor Dowell and Mr. Lattimer resigned in that year - the former to join the staff of the University of Minnesota and the latter to undertake graduate work at Wisconsin. Mr. J. P. Sackville (B.S.A., Toronto; M. Sc., Iowa State) was appointed to replace Professor Dowell and R. D. Sinclair (B.S.A., Alberta - Gold Medalist, class of '18) as Assistant Professor to replace Mr. Lattimer.

The next twenty years were rich in accomplishment but, owing to the advent of the 'hungry thirties' at a time when expansion might otherwise have been expected, lean in growth. Some landmarks of this period follow.

Bulletin No. 1, "Roughages for Pregnant Ewes", by A. A. Dowell and J. E. Bowstead, was published in 1923. It has been a continuing policy to summarize results of research in the various areas of livestock production in bulletin form to make them readily available to farmers and extension personnel. Ten bulletins and four circulars were published between 1923 and 1942. The total number of copies of bulletins and circulars, including poultry but excluding Feeders' Day reports, published to 1964 exceeds 268,000. The great majority, of course, have gone to Alberta farmers but there has always been a surprising demand for these bulletins from other provinces and other countries.

The first M. Sc. candidate in the department was W. A. MacDonald of Grainger, Alberta. He was awarded the degree in 1924 - thesis, "Canadian Shorthorn Sires". Bill returned to the home farm where he retained his interest in Shorthorn cattle and was active in community affairs and Provincial politics throughout his life.

"Some Experiments in Mineral Feeding" by R. D. Sinclair and J. P. Sackville (Sci. Agr. 6: 373-379, 1926) was the first paper published from the department in a scientific journal.

Two graduate courses, "Advanced Animal Production and Nutrition" and "Experimental Methods", were first offered in the 1926-27 session. Aside from the introduction of these graduate courses there were comparatively few formal course changes during this era although the emphasis and content was changed gradually, particularly after Jack Bowstead and Bob Sinclair completed their Ph.D. programs at Wisconsin and Aberdeen in 1929 and 1932 respectively.

An additional 240 acres, which became known as the 'west 240', was purchased in 1930 and in the summer of that year the farm buildings were moved from their 84 Avenue and 114 Street site to their present 68 Avenue and 116 Street location. Although there are repeated references in the department records from 1920 to 1929 to the latter site as the 'new' or 'south' or 'main' farm, the exact date of its purchase is not mentioned. A search of the minutes of the Board of Governors by the Bursar, Mr. Whidden, revealed that the 'main farm' (360 acres for Animal Husbandry and approximately 19 acres for Soils) was purchased in April, 1920 for \$53,000. This search also unearthed a Board minute specifically to the effect that the area was to be named the "Experimental Station". The reason why it has never been so designated remains shrouded in mystery.

The details of the move and accompanying construction of new buildings are covered in a 21-page annual report for 1930-31 from Professor Sackville to Dean Howes. Five buildings - horse barn, combination beef and dairy barn (converted at the time to a beef barn), sheep and swine barns and the superintendent's house - were transported, intact or in sections, 1½ miles south to their new location. It must have been a busy summer - construction of the livestock judging pavilion, the dairy barn, the elevator, the implement shed and seven 4- and 5-room houses for farm staff was also completed. Construction costs were somewhat lower in those days; for example, the total cost of the seven houses was \$23,000!

Removal of the barns and livestock from the campus was more than welcome to occupants of the University Hospital, the Normal School and the relatively few residences within breeze distance of the barns and swine paddocks. However, it ended a decade of a few days of pleasure each spring and fall for south-side children, plus not a few 'sidewalk engineers' of more mature years, because it eliminated the annual spring migration of livestock from the campus to the 'south farm' and their return journey in the fall. Episodes associated with the herding of 400 to 500 pigs of all ages along 114 Street across the old 'Toonerville Trolley' tracks on 76 Avenue and thence through the Belgravia bush to the summer quarters provided moments of pure joy to these citizens. It is thus perhaps understandable that they never came to fully appreciate the fact that the improved facilities on the 68 Avenue and 116 Street farm site enabled Professors Sackville, Sinclair and Bowstead to carry on investigations during the next decade on protein, mineral and vitamin deficiencies of farm feeds that were to prove of inestimable value to producers and consumers of livestock and livestock products across Canada.

Department of Veterinary Science

The Department of Veterinary Science at the University of Alberta is synonymous with the name of Dr. Percy R. Talbot (V.S., Toronto; D.V.M., McKillip Veterinary College, Chicago), Provincial Veterinarian. Dr. Talbot was appointed as a Special Lecturer in Veterinary Science in 1916 and continued in that capacity until 1929 when he was promoted to the rank of Professor, but it is not clear whether this advancement involved any change in either Dr. Talbot's duties or salary. Neither is it clear why a separate Department of Veterinary Science was established in 1918. In any event the department was not destined to grow even to the extent of an office on the campus. As one who was first a student and later a colleague of Dr. Talbot, I can attest that his lectures were much appreciated by Agriculture students over three decades. They were characterized by an interesting balance between veterinary medicine and philosophy and pioneer agricultural history in this Province, all amply illustrated with entertaining but unprintable anecdotes. The education of students can be accomplished and their lives enriched in different ways. I, for one, regret that there is no counterpart of Dr. Talbot in the Faculty of Agriculture today.

Department of Poultry Husbandry

An article prepared by Dean Sinclair in 1949 contains the statement that "instruction in Poultry Husbandry has been given at the University of Alberta since 1919", but no record has been found regarding who gave this instruction prior to the establishment of a Poultry Department in 1928, and the concurrent appointment of a poultry staff of one in the person of Miss Helen I. Milne. A Department of Poultry Husbandry was listed in the University calendar for the 1921-22 session with S. A. Bergey (B.S.A., Toronto) as Assistant Professor. Apparently the announced department and appointment failed to materialize - again no explanation was found.

Miss Milne's appointment provides a vivid illustration of the contrast in the purchasing power of a 1928 versus a 1964 dollar. In 1936 Miss Milne was described by Dean Howes as . . . "with possibly one or two exceptions the best trained authority on poultry husbandry in Canada". From her appointment in 1928 to her resignation in 1937 to be married she had full charge of the Poultry Department, gave excellent classroom and extension lectures and published the results of some first-rate research. She was appointed at the rank of Instructor at a salary of \$75.00 per month plus room and board and had been promoted to the rank of Lecturer sometime before she resigned. Lest the foregoing raise the question, I hasten to add that Miss Milne married for love - not to escape poverty!

D. R. Clandinin (B.S.A., M.S.A., British Columbia) was appointed in 1938 to replace Miss Milne as Lecturer in Poultry.

Department of Animal Science
1942 - 1964

The amalgamation of the three departments with Professor Sackville as Head did not involve any immediate major changes in either the responsibilities of the individuals involved or the nature of the courses offered in the three areas. Dr. Talbot continued to give essentially the same courses until his retirement in 1948. Mr. Clandinin's teaching, and for practical purposes his administrative responsibilities, were unchanged because he remained in charge of the Poultry Division. The Animal Husbandry Division remained comprised of Professors Sackville, Sinclair and Bowstead until December, 1943 when L. W. McElroy (B.Sc., M.Sc., Alberta; Ph.D., California) was appointed Assistant Professor to relieve these men, particularly Dr. Sinclair, of part of the extra teaching and research load that they had been carrying since 1942 when Dr. Sinclair (with only a minor reduction in his departmental responsibilities) succeeded Dr. Newton as Dean of the Faculty of Agriculture.

A major advance of 1944 was the establishment of the department nutrition laboratory in the southeast corner of the basement of the Power Plant. Prior to this time any laboratory studies carried out by staff or their graduate students had been done with equipment and in space provided by other departments, mainly Biochemistry. In 1944 and 1945, the 'power plant' laboratory was used for undergraduate teaching and for staff and graduate research. In 1946 it became a research laboratory because it was much too small to accommodate the large post-war undergraduate classes. In common with other departments we entered the 'hut' era in 1946 with temporary (8 years) space in three large wartime huts located north and west of the North Laboratory. From 1946 to 1954 the department occupied office, laboratory and classroom space in six buildings - North Laboratory, Power Plant, Medical Building, and three huts. Consolidation of the department on the fourth floor of the new Agriculture Building came as a welcome move in 1954.

By October, 1964 a block of eight rooms in Assiniboia Hall will have been remodelled for use as study rooms by Animal Science graduate students. Transfer of its graduate students from Agriculture 439 to Assiniboia Hall will at once return the department in part to its birthplace in a University residence and mark the end of a decade in which it has been possible to center the campus departmental activities in one area. Will the end of the coming decade see the department once again housed in six buildings?

Inasmuch as the method of financing the purchase of equipment for the laboratory in the Power Plant is one that is not likely to be repeated, it seems worthy of mention. By 1954 this was without question the best-equipped animal and poultry nutrition research laboratory in any university in Canada. Its contents, plus an overflow that had found its way into the undergraduate laboratory in one of the huts, essentially filled rooms 410 and 429 of the new Agriculture Building. But only a few hundreds of dollars had ever appeared in the annual estimates of the department for the purchase of capital equipment for the laboratory!

Then, as now, the annual budget estimates for the department were prepared basis gross expenditure minus revenue (both estimated essentially 18 months in advance) equals net annual operating expenses. After the customary adjustment (at that time minor) at 'higher levels', an amount equal to the net figure was provided in the budget. Theoretically expenditures were not to exceed this net figure, but in practice it was not difficult to convince the Administration that excess of actual over estimated revenue should be spent on equipment for the department. Not only this, but in those years of rapidly rising livestock prices, figures for estimated revenue based at worst (from the point of view of the department) on prices for the preceding year were accepted as realistic. Those days are gone but, with the preparation of the 1965-66 budget estimates in sight as this is being written, they are recalled with marked nostalgia.

To return to the early 1940's - the availability of laboratory research facilities, plus significant department research of a basic nature in the years immediately preceding the establishment of the laboratory, provided a suitable climate to attract the first substantial grants in aid of research from industry and other sources, notably the National Research Council. With expanding numbers of well qualified staff, improved facilities and increased research output, the number and size of such grants have grown gradually to their current level of over \$60,000 annually.

Professor Clandinin was granted leave of absence in 1945-46 to complete requirements for the Ph.D. degree at the University of Wisconsin, and A. R. Robblee was appointed Sessional Instructor for this period.

The first paragraph of Professor Sackville's annual report dated April, 1946, is devoted to the need for more space and staff to provide for the marked increase in numbers of students following the heavy enrollment of returned service men which began in September, 1945 and

continued with a second large group in January, 1946. Wartime huts were, as has been indicated, the answer to the space problem. The appointment in September, 1946 of J. W. Howe (B.Sc., Alberta; M.Sc., Ph.D., Iowa State) and J. E. Price (B.Sc., M.Sc., Alberta) as Sessional Lecturers in the Animal and Poultry Divisions respectively, helped to relieve the shortage of staff. Dr. Howe was promoted to Assistant Professor and remained with the department until June, 1948, when he resigned to accept a position with the College of Arts and Industry, Kingsville, Texas. Mr. Price and his successor, Miss Joan Stevens (B.S.A., British Columbia) each served for only one session as Lecturer in Poultry.

Prior to 1947 the only campus space for poultry experiments available to Dr. Glandinin, and his predecessor Miss Milne, was one small room near the poultry office on the fourth floor of the Medical Building. Early in 1947 a start was made on the construction of a poultry plant on a 35-acre plot on the 68 Avenue and 116 Street farm site. Most of the funds for the construction of this unit were provided through special grants from the Canada Department of Veterans Affairs and the Alberta government. The office and the breeding, laying and brooding houses were completed in 1947 and the hatchery building in 1948. A storage shed was built in 1950, a turkey shed in 1957, and a second laying house in 1958.

Another event of 1946 which is of some historical interest was the celebration of the 25th anniversary of Feeders' Day. With the co-operation of the University Department of Extension, the reports of experiments were printed, rather than mimeographed as in previous years, and appeared as an issue of the Press Bulletin in an appropriate Silver Anniversary cover. Another innovation was an on-the-spot noon barbecue. Publication of reports in the Press Bulletin was forthwith adopted as a continuing policy but the on-the-spot barbecue was modified to a sliced roast in a bun affair - the roasts cooked and the buns buttered in the campus kitchen!

Professor Sackville retired in July, 1947, after 25 years of distinguished service to the University. On retirement he moved to his present residence in Calgary where he continued to serve the livestock industry in the capacity of Secretary of the Canadian Aberdeen Angus Association until his second retirement in 1959.

Dr. Sinclair succeeded Professor Sackville and, until his untimely death September 30, 1950, served as Dean and Department Head. The following brief quotation from a local radio broadcast of October 2, 1950, in tribute to Dean Sinclair gives some indication of the place of high esteem that he had earned in agricultural education, research and extension . . . "Robert David Sinclair has left behind contributions to the basic industry of this province, of Canada, of the world. This is a true monument, an enduring monument. For our strength is from the soil and to the soil we all return."

L. W. McElroy was appointed Vice-chairman of the Department in 1948 and promoted to Head in May, 1951. The number of permanent staff in the Poultry Division was increased to two in 1948 with the appointment

of A. R. Robblee (B.Sc., M.Sc., Alberta; Ph.D., Wisconsin) as Assistant Professor. In 1949 J. P. Bowland (B.S.A., Manitoba; M.S., Washington State; Ph.D., Wisconsin) joined the staff of the Animal Husbandry Division at the same rank. R. T. Berg (B.Sc., Alberta) was appointed as a Lecturer in 1950 and, after leave of absence from 1952 to 1955 to complete M.S. and Ph.D. studies at the University of Minnesota, rejoined the Animal Husbandry Division as Assistant Professor.

On Dr. Talbot's retirement in 1948, Dr. J. G. O'Donoghue (D.V.M., Toronto) was appointed Lecturer in Veterinary Science. At the time of his appointment, Dr. O'Donoghue was Extension Veterinarian and is now Assistant Director, Field Services Division, Veterinary Services Branch, Alberta Department of Agriculture. In addition to providing first-rate instruction in Veterinary Science courses in the Faculties of Agriculture and Pharmacy, Dr. O'Donoghue has since 1961 contributed generously of his time to instruction in parts of Animal Science 310 - Anatomy and Applied Physiology.

Professor Bowstead retired in 1959 and has, with considerable success, tried ever since to make his former colleagues envious of his winters in California, Florida, Mexico or Hawaii and his summers on Mayfair Golf Course or in the University Swimming Pool. Assistant Professor J. M. Asplund (B.Sc., M.Sc., Alberta; Ph.D., Wisconsin) succeeded Dr. Bowstead in the fall of 1959. His father was C. O. Asplund, Gold Medalist in the Agriculture class of 1926. Dr. Asplund resigned in December, 1963 to accept a long-term assignment with the Mormon Church in Finland. Assistant Professor C. M. Grieve (B.S.A., M.Sc., Manitoba; Ph.D., Alberta) replaced Dr. Asplund in July, 1964.

Prior to 1955 the research program of the department was largely in the field of nutrition. With Dr. Berg's return, long overdue steps were taken to expand and add depth to the teaching and research programs in animal and poultry genetics. The next appointments in this area came in 1962 when Assistant Professors W. Combs (B.S., Cal. Poly.; M.S., Minnesota; Ph.D., Wyoming) and R. T. Hardin (B.Sc., Georgia; M.Sc., Ph.D., Purdue) joined the Animal and Poultry Divisions respectively.

In the meantime some five years of negotiation and brief-writing had, in 1960, culminated in the initiation of a major beef breeding project on a 5,554-acre ranch at Kinsella. For details of the project and progress to date see 1962 and 1964 Feeders' Day reports. Two capital grants (\$200,000 in 1960 and \$55,400 in 1964) were provided by the Alberta Department of Agriculture from the Horned Cattle Trust Fund. Of the original grant, approximately \$94,000 was applied to the purchase of the land by the Province for assignment to the University under a 50-year lease and \$106,000 to improvements - for example, some 40 miles of barbed wire fence at \$600 per mile - and to the purchase of foundation breeding stock. The supplementary grant is being applied mainly to the construction of two performance testing sheds, each 200 feet long, with associated corrals and feed storage, mixing and weighing facilities.

Preliminary plans have been in the files for some time for a swine breeding project of comparable scope to be located on the 320-acre Animal Science portion of the Ellerslie Farm which was purchased by the Province in 1961 for long-term lease to the University.

Associated with the initiation of the beef breeding project were dispersal sales in June, 1961 at which, with the exception of 23 Herefords and 12 Angus transferred to Kinsella, the herds of registered Aberdeen Angus, Hereford and Shorthorn cattle established at the Edmonton farm in the early 1920's were dispersed. It was interesting, at least to me, that fewer expressions of concern were received from private breeders about the dispersal of the three beef herds than had been received from horse breeders over the dispersal sale of the University Percherons in 1955. Still on the subject of dispersal sales, the Jersey cattle were sold in 1962 to permit increasing the size of the Holstein herd to provide sufficient numbers of animals for better designed experiments.

Among the poultry breeding projects that have been essentially completed since facilities for such work became available about 1947 are: (a) the development of two broiler strains of White Plymouth Rock females plus a dominant white Cornish-type male line for crossing with these females, and (b) the development of an improved strain of broad-breasted white turkeys.

Concurrent with the drive to get more adequate and balanced programs in animal and poultry genetics under way was one to round out the nutrition and breeding programs with one in physiology to emphasize fundamental and applied studies on the effects of low temperatures. In 1961 Assistant Professor V. E. Mendel (B.Sc., M.Sc., Idaho; Ph.D., California) became our first animal physiologist. He resigned in the fall of 1963 to accept an attractive offer from the University of California. His replacement, Assistant Professor T. D. D. Groves (B.S.A., M.S.A., British Columbia; Ph.D., Purdue) arrived in July, 1964.

Facilities for teaching and research in physiology remain limited and those for controlled low temperature research with farm livestock and poultry non-existent. The beef barn, a landmark first of the 84 Avenue and 114 Street farm site and, after 1930, of the 68 Avenue and 116 Street farm, was destroyed by fire in April, 1964. It was insured for its replacement value (approximately \$83,000) and it is hoped that its 'replacement' may within the next year become the environmental control unit (barn!) that has had an unfortunate history in the budget estimates for the past five years. Hope springs eternal!

The increasing degree of emphasis on fundamental research, graduate studies and, by implication, on the science content of undergraduate courses through approximately 4½ decades is reflected in Table 1. Since 1956, three men with Ph.D. degrees from other universities each worked for a year or more in the department under postdoctoral fellowships and this year we are pleased to have, in the person of Dr. H. D. Fausch, Professor of Animal Husbandry, California State Polytechnic College, the first man who has chosen to spend his sabbatical year in the department.

The series of lectures and hours of stimulating discussion provided early in 1964 by Dr. K. L. Blaxter of the Hannah Dairy Research Institute during his 4-week Visiting Lectureship in Animal Science, sponsored by the National Research Council and the Nuffield Foundation, were of immediate and lasting value to the department research and teaching programs.

Table 1
Numbers of Papers Published in Scientific Journals
and of Advanced Degrees Earned in the Department

	<u>Papers</u>	<u>M. Sc.</u>	<u>Ph.D.</u>
1921-30	4	3	-
1931-40	13	6	-
1941-50	28	11	-
1951-60	49	12	2
1961-64	33	12	3

The numbers of farm, laboratory and office employees have increased from one in 1915 to the current total of approximately thirty-five. The success of the work of any department of animal science depends in no small degree on the faithfulness and diligence of its non-academic staff. Through the years we have been blessed with our full share of the best. Only four of the many who have contributed much to the welfare and history of the department will be mentioned.

Mr. W. J. Thompson who came from Bruce County, Ontario, early in the century to farm at Olds, was the first farm manager and served in sequence under Dean Howes, Professor Dowell and Professor Sackville before his retirement in 1932. Another native of Bruce County, J. H. Johnston, our first beef herdsman, succeeded Mr. Thompson. Mr. Johnston retired in 1947 after thirty-three years of faithful service to the University. In recognition of his contribution to the livestock industry his picture was hung in the Alberta Agricultural Hall of Fame in 1951. Mr. L. S. Brooks (also Bruce County!), dairy cattle herdsman 1922-1947, succeeded Mr. Johnston. He is scheduled to retire this year and I am one of many who will miss his warm smile and quiet, competent management of the farm through years of rapid change and difficult situations associated therewith.

Last, but not least, my secretary Miss Irene MacKillop - she searched the records for this history; more important she has long made it unnecessary for me to know how to spell or to have anything other than a very faint acquaintance with the department accounts and files.

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Appendix A - List of Graduate Students

Appendix B - Photographs

Appendix A - List of Graduate Students

Graduate Students
Department of Animal Science

<u>Year</u>	<u>Degree</u>	<u>Name</u>	<u>Thesis Title</u>	<u>Supervisor</u>
1924	M. Sc.	MacDonald, W. D.	Canadian Shorthorn sires	J. P. Sackville
1927	M. Sc.	DeLong, G. E.	Multiple weights in their relation to accuracy in live stock experiments.	J. E. Bowstead
1928	M. Sc.	Syrotuck, M.	The influence of ultra-violet light and vitamin D on the growth of fall farrowed pigs.	R. D. Sinclair
1934	M. Sc.	Berliner, V. R.	Studies on reproduction. I. Factors influencing fertility in sheep and swine. II. Factors reducing fertility in swine with especial observations of abnormal prenatal development.	J. E. Bowstead
	M. Sc.	McElroy, L. W.	A study of the protein and calcium requirements of growing pigs.	R. D. Sinclair
1935	M. Sc.	Murray, J. A.	The influence of the protein content of the ration, and other factors, on carcass quality in the bacon hog.	R. D. Sinclair
1936	M. Sc.	Johnson, S.	A study of the phosphorus and calcium requirements of growing pigs.	R. D. Sinclair
1938	M. Sc.	Nekoliczuk, N. E.	The comparison of a syndrome of sheep, rats and rabbits on similar deficient rations.	J. E. Bowstead
1940	M. Sc.	Hall, T. W.	A study of some factors affecting carcass quality.	R. D. Sinclair

Graduate Students - Department of Animal Science (continued)

<u>Year</u>	<u>Degree</u>	<u>Name</u>	<u>Thesis Title</u>	<u>Supervisor</u>
1942	M. Sc.	Stringam, E. W.	Grazing capacity studies of cattle.	R. D. Sinclair
1945	M. Sc.	Hedlin, D. O.	The use of urea as a protein supplement for ruminants.	J. E. Bowstead
1946	M. Sc.	Rigney, H. A.	A survey of the choline content of grains, hays and by-products used in animal and poultry feeds.	L. W. McElroy
	M. Sc.	Robblee, A. R.	The use of crystalline riboflavin in poultry rations.	D. R. Clandinin
1947	M. Sc.	Fredeen, H.	A study of the palatability of urea-containing feed mixtures for dairy cows.	J. E. Bowstead
	M. Sc.	Lobay, W.	A study of the nutritional value of cereal grain proteins. I. Feeding experiments with grain of different protein content. II. Amino acid assays on grain.	L. W. McElroy
	M. Sc.	Simonson, H. D.	The niacin content of Alberta grains.	L. W. McElroy.
1948	M. Sc.	Draper, H. H.	A study of the nutrition of the pig; the influence of the gestation-lactation ration on the prenatal and postnatal development of the progeny.	L. W. McElroy
	M. Sc.	MacNaughton, W. N.	The influence of breed, sire, and type of birth and rearing on the weaning weight of ewe lambs.	J. E. Bowstead
1949	M. Sc.	Pethybridge, S. I.	Nine essential amino acids in pure varieties of grain.	L. W. McElroy
1950	M. Sc.	Renner, R. O. A.	Amino acid deficiencies of grain proteins.	L. W. McElroy

Graduate Students - Department of Animal Science (continued)

<u>Year</u>	<u>Degree</u>	<u>Name</u>	<u>Thesis Title</u>	<u>Supervisor</u>
1951	M. Sc.	Beacom, S. E.	A study of some constituents of the milk and blood and the effects of animal protein factor in swine nutrition.	L. W. McElroy J. P. Bowland
1952	M. Sc.	Brown, J. A.	The use of antibiotics in poultry rations.	A. R. Robblee
	M. Sc.	Morrison, A. B.	Sunflower seed oil meal studies. I. The effects of methods of processing on the nutritive value of sunflower seed oil meal. II. The supplementary value of sunflower seed oil meal in practical chick starting rations.	D. R. Clandinin
	M. Sc.	Owen, B. D.	Supplemental pantothenic acid in small grain rations for swine.	J. P. Bowland
1953	M. Sc.	Hironaka, R.	Antibiotics in swine nutrition.	J. P. Bowland
1955	M. Sc.	Sibbald, I. R.	Creep feed rations for suckling pigs with additional studies relating to the vitamin content of swine milk and blood plasma.	J. P. Bowland
1956	M. Sc.	Bowman, G. H.	An appraisal of certain sources of environmental variation in the productivity of Yorkshire sows.	J. P. Bowland
	Ph. D.	Vonk, M. A. A.	The effect of ingested chlortetracycline on the activity of some hydrolases and on some organs associated with the digestion process in young growing swine.	L. W. McElroy
1957	M. Sc.	Asplund, J. M.	Estimation of quality of forage crops by artificial rumen techniques.	L. W. McElroy

Graduate Students - Department of Animal Science (continued)

<u>Year</u>	<u>Degree</u>	<u>Name</u>	<u>Thesis Title</u>	<u>Supervisor</u>
1957	Ph. D.	Sibbald, I. R.	Energy and nitrogen in the food of the weanling rat.	J. P. Bowland
1958	M. Sc.	Hussar, N.	Rapeseed oil meal studies with swine and rats.	J. P. Bowland
1959	M. Sc.	Likuski, H. J. A.	Energy utilization and nitrogen retention by swine and rats fed rations varying in energy and protein level.	J. P. Bowland
1960	M. Sc.	Connelly, F. M.	Dietary protein utilization and thyroid activity in two inbred lines of rats and their reciprocal crossbreds.	R. T. Berg
	M. Sc.	McDonald, B. E.	Effect of energy and amino acid level on protein requirements of poultry.	A. R. Robblee
1961	M. Sc.	Grunder, A. A.	Relationship between blood group genes and economic traits of poultry.	D. R. Clandinin
	M. Sc.	Kuryvial, M. S.	Energy digestibility, nitrogen retention, efficiency of feed utilization and carcass characteristics of pigs fed varying levels of fat and protein.	J. P. Bowland
	M. Sc.	Lentz, W. E.	Genetic and environmental variance and covariance in beef cattle performance characteristics.	R. T. Berg
	M. Sc.	Marquardt, R. R.	The effects of water-soluble components of forages on the <u>in vitro</u> cellulolytic activity of rumen microorganisms.	J. M. Asplund

Graduate Students - Department of Animal Science (continued)

<u>Year</u>	<u>Degree</u>	<u>Name</u>	<u>Thesis Title</u>	<u>Supervisor</u>
1961	M. Sc.	Plank, R. N.	Relationships of feedlot performance and carcass characteristics of swine.	R. T. Berg
1962	M. Sc.	Carlson, H. C.	Studies on carbon monoxide poisoning in chicks.	D. R. Clandinin
	Ph. D.	Grieve, C. M.	Pelleted rations for sheep: Effects on feed consumption and utilization, volatile fatty acid production and fermentation rate in the rumen.	A. R. Robblee
	M. Sc.	Manns, J. G.	Solvent-extracted rapeseed oil meal as a protein source for pigs and rats.	J. P. Bowland
1963	M. Sc.	Church, R. B.	Inheritance and interrelations of live performance and carcass characteristics in beef cattle.	R. T. Berg
	M. Sc.	Gall, G. A. E.	Bovine serum transferrins - inheritance and relation to production traits.	R. T. Berg
	Ph. D.	Li, Ming-fang	<u>In vitro</u> studies on the effects of valeric acid on the growth and metabolism of rumen microorganisms.	L. W. McElroy
	Ph. D.	MacKay, V. G.	Effects of inorganic salts on rumen volatile fatty acid production and percent fat in milk.	L. W. McElroy
	M. Sc.	Milligan, L. P.	A study of the role of thiamine and biotin in the metabolism of rumen microorganisms.	J. M. Asplund
	M. Sc.	Veeraraghavan, G.	A study of diurnal temperature patterns in sheep.	V. E. Mendel
1964	M. Sc.	Willes, R. F.	Water transfer from the forestomachs of sheep.	A. R. Robblee

Appendix B - Photographs

SOME EARLY FARM BUILDINGS



First permanent cattle barn, about 1916 - classroom and judging ring in wing at left - University residences in background.



Straw shed used in steer feeding tests, 1920-30 - Windsor Park of that era in background.



First steer feeding shed at 68 Ave. and 116 St. site, about 1931.
The silo was built in early 1920's - silage was hauled to 84 Ave. and 112 St.

Program for Feeders' Day
at the University of Alberta - April 14, 1923

- 9:30-10:00 Rations for Wintering Brood Sows - R. D. Sinclair
Discussion led by H. G. Herbert, Canada Land and Irrigation
Co., Medicine Hat
- 10:00-10:30 Economy of Fall Pigs - R. D. Sinclair
Discussion led by J. P. Sackville
- 10:30-11:00 General discussion on feeding and management of hogs -
led by Geo. Ball, West Salisbury, and W. J. Bailey,
Wetaskiwin
- 11:00-11:25 Breeding Ewe Lambs - J. E. Bowstead
- 11:25-11:50 Rations for Pregnant Ewes - J. E. Bowstead
- 11:50-12:10 Fattening Lambs - J. P. Sackville
Discussion led by I. V. Parslow, Stock Yards, Calgary
- 12:10-12:30 Visit through Sheep, Swine, and Cattle barns.
- 12:45- 2:15 Luncheon - Chairman, E. A. Howes, Dean of Faculty of Agriculture
Addresses by: Dr. H. M. Tory, President of University of
Alberta
Hon. E. Perren Baker, Minister of Education
Hon. Geo. Hoadley, Minister of Agriculture
W. J. Stark, Secretary Alberta Provincial
Live Stock Association
E. L. Richardson, Sec'y Alberta Live Stock
Association
- 2:30-3:00 Review of steer feeding experiment - J. P. Sackville
- 3:00-3:45 Discussion on steer feeding led by S. G. Carlyle, Live
Stock Commissioner for Alberta
- 3:45-4:15 H. S. Arkell, Live Stock Commissioner for Canada,
Problems on Marketing.
- 4:15-4:30 C. D. Gainer of Gainer Packing Co.
- 4:30-4:45 Trench Silos - G. H. Hutton, Superintendent of Agriculture
and Animal Industry, Canadian Pacific Railway, Calgary
- 4:45-5:30 Sterility in Cattle - Dr. P. R. Talbot, Provincial Veterinarian
- 5:30-5:45 Experimental Work, H. A. Craig, Deputy Minister of Agriculture
for Alberta

SOME EARLY FEEDERS' DAY PICTURES



First Feeders' Day, April 21, 1922
(in front of sheep barn at 84 Ave. and 112 St.)



Feeders' Day, 1927 - in front of horse barn,
part of University Hospital on right.



Feeders' Day, 1931 - first one at the pavilion, 68 Ave. and 116 St. site.

STEER EXHIBITS - EARLY AND LATE



Crossbred show steer of about 1920.



These steers, exhibited by the U. of A., swept the Toronto Royal in 1927 - Crossbred and three Breed Champions, and Grand Champion.



Earl U A, Grand Champion Shorthorn Steer, Toronto, 1951.

TWO MARES SOLD AT PERCHERON DISPERSAL SALE, 1955



Decorator's Dinah U A
Grand Champion Percheron Mare, Royal Agricultural Winter Fair, 1954.



Koncarhope's Ellen U A
Reserve Grand Champion Percheron Mare, Royal Agricultural Winter Fair, 1954.

CALCIUM AND VITAMIN D DEFICIENCIES IN SWINE



1-Grain alone

-Daily Gain 0.40 lb.



2-Grain + cod liver oil-Daily Gain 0.66 lb.



3-As 2+ground limestone-Daily Gain 1.00 lb.



4-As 3 + protein

-Daily Gain 1.28 lb.

Crippled pigs (top picture) were very common in Alberta in the '20's and '30's prior to R. D. Sinclair's studies on the value of supplementing Alberta swine rations with ground limestone and vitamin D.

COBALT DEFICIENCY IN SHEEP



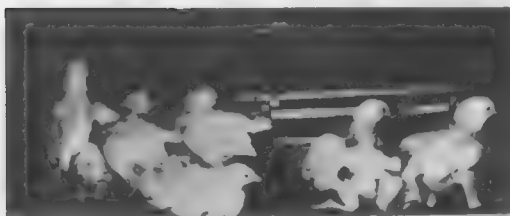
(Deficient)



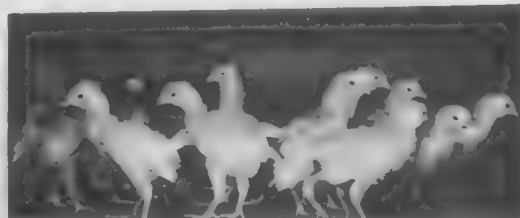
(Supplemented)

Cobalt deficiency in sheep fed entirely on grass hay was first observed in Canada by Professors Bowstead, Sinclair and Sackville in the early 1930's.

RIBOFLAVIN AND PANTOTHENIC ACID-BIOTIN DEFICIENCIES

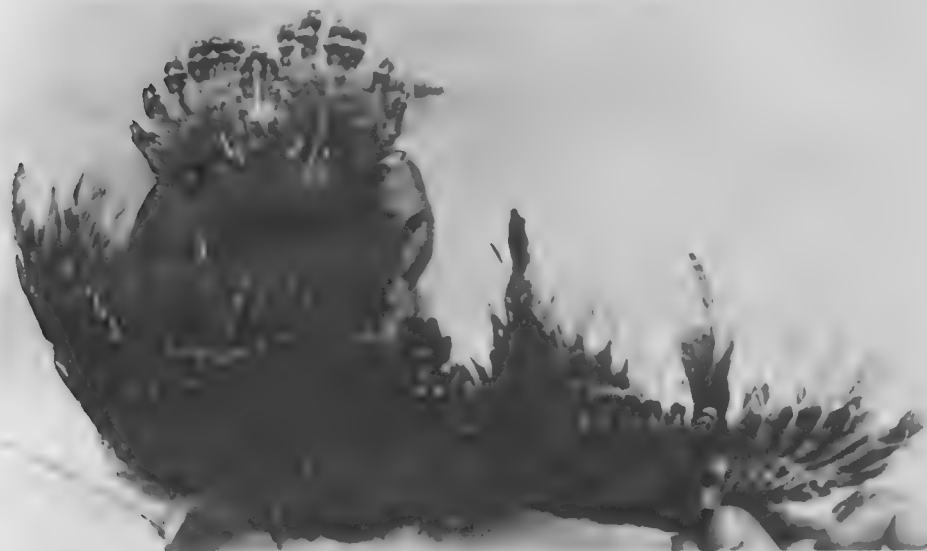


(Deficient)



(Supplemented)

Use of synthetic riboflavin in place of natural sources of this vitamin in practical poultry rations shown feasible by D. R. Clandinin in 1941.



(Deficient)



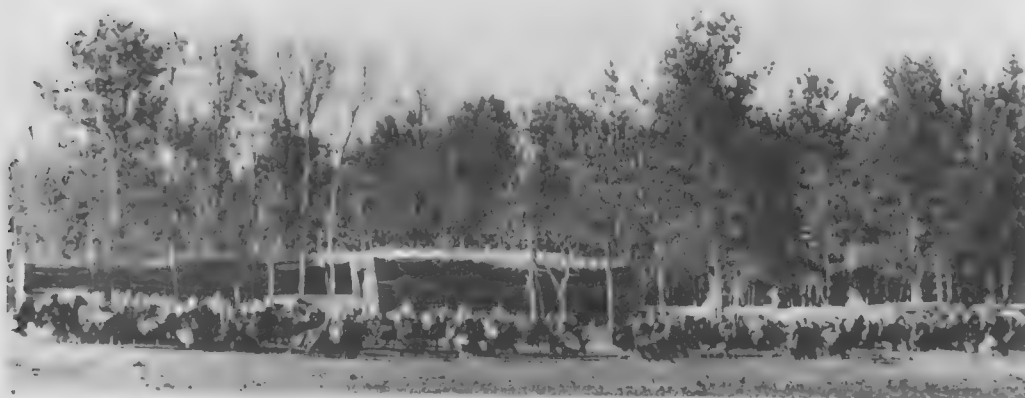
(Supplemented)

Pantothenic acid and biotin deficiency in poults fed practical starters - first observed in Alberta by D. R. Clandinin and A. R. Robblee in 1953.

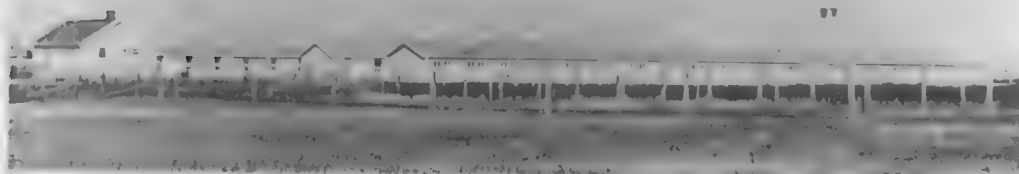
TURKEYS



Wild turkeys, introduced into Alberta about 1915
(picture from Dean Howes' files).



First departmental facilities for research with turkeys,
about 1948.



Portion of new poultry plant, 1947.

LABORATORY FACILITIES

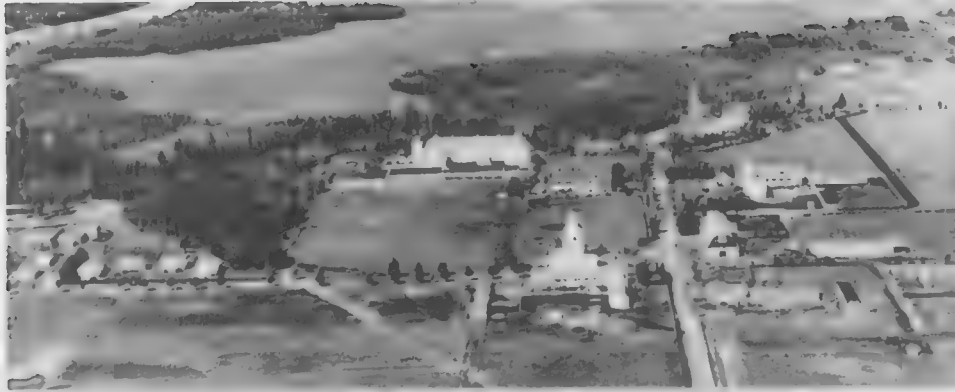


First Animal Science Nutrition Laboratory,
basement of Power Plant, 1946-54.



Portion of Animal Science Research Laboratory,
410 Agriculture Building, 1954-.

FARM BUILDINGS



University Livestock Farm, 1930-47 - University dairy cattle in rented Belgravia pasture in background.



Animal Science and Parkland farms, and Provincial Veterinary Laboratory, 1962. By 1964 city residences had been built along all four borders of the farm.



Elevator, a landmark of the 116 St. and 68 Ave. farm site.

SOME EARLY STAFF MEMBERS



R. D. Sinclair, J. P. Sackville and J. E. Bowstead -
the Department of Animal Husbandry staff, 1922-42,
at west entrance to North Laboratory in which the
department main office was located from 1920 to 1954.



Joe Johnston -
beef herdsman, 1918-32;
farm manager, 1932-47.



Leonard Brooks -
dairy herdsman, 1922-47;
farm manager, 1947-64.

DEPARTMENT HEADS



From left - A. A. Dowell, 1917-22; J. P. Sackville, 1922-47;
L. W. McElroy, 1951- (at 1958 Feeders' Day).

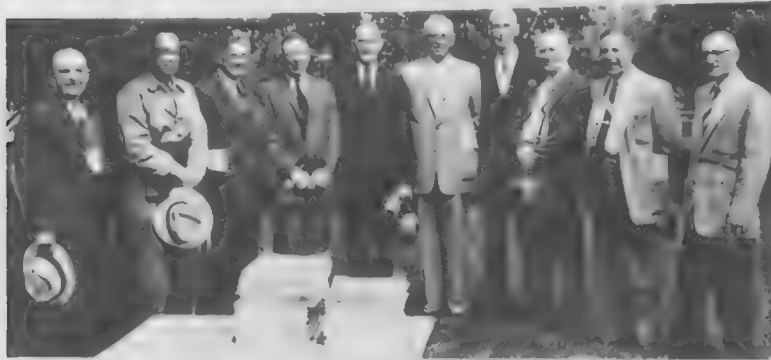


R. D. Sinclair (right), Department Head, 1947-50; Dean of Agriculture,
1942-50 (introducing President Robert Newton at 1947 Feeders' Day).

SOME OLD TIMERS
(Feeders' Day, 1958)



Audience hears review of early days by Dr. Dowell.



Dr. Dowell renews acquaintance with some former students - from left: H. R. Thornton ('22), J. G. Clark ('21), B. J. Whitbread ('18), E. H. Buckingham ('21), A. A. Dowell, S. O. Hillerud ('20), G. B. Sanford ('20), N. F. Bell ('19), W. D. MacDonald ('22), D. J. McKinnon ('23).

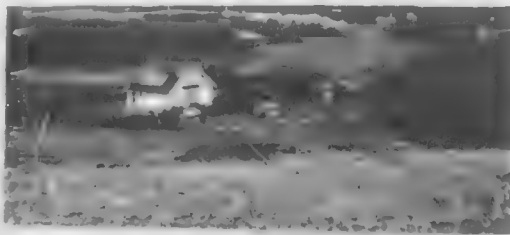


From left - L. M. Rye, Frank Collicutt, A. A. Dowell and S. C. Pritchard. Lawrence Rye and Sam Pritchard attended the first Feeders' Day in 1922.

U. OF A. RANCH, KINSELLA



The original barn, 1960.



The original house, 1960
(town of Kinsella in background)



Partial view of main corrals,
1961.



First weigh day, 1961.

A HISTORY
OF THE
DEPARTMENT OF DAIRYING
now known as the
DEPARTMENT OF DAIRY AND FOOD SCIENCE
UNIVERSITY OF ALBERTA
—
to 1965
—
by

From 1929-1958 - H. R. Thornton
From 1958-1965 - L. F. L. Clegg

HISTORY OF THE DEPARTMENT OF DAIRYING, UNIVERSITY OF ALBERTA

INCEPTION

By 1917 the Provincial Dairy Branch, under its Dairy Commissioner, Dr.C.P.Marker, was offering short short-courses in dairying for World War I veterans under the sponsorship of the Dominion Government agency, Soldiers' Civil Re-establishment. For the accommodation of this activity, the University of Alberta provided space in the South Laboratory. The subject material was of a very elementary nature indeed and any processing was on a small, hand and farm-home basis.

During the 1917-18 University Session, lectures in Dairying were given to students in Agriculture at the request of the Faculty of Agriculture under the Deanship of E.A. Howes. As no laboratory facilities were available, no laboratory practice was given these students.

The Department of Dairying of the Faculty of Agriculture was created by motion of the Board of Governors of the University of Alberta in May 1921 and as of the same date, Dr. Marker was appointed Professor of Dairying and Head of the Department without salary from the University. A Coil Vat for cream pasteurization, a power churn and a cheese vat with a home-made upright press were installed and two-bottle hand centrifuges for Babcock testing were mounted on a table-top. The first laboratory instruction for the Agriculture students was offered during the 1921-22 session.

SPACE

Until recent years, a north-south corridor, 10' wide, ran from the foot of the stairs in the north entrance lobby to the present delivery door. The entire space west of this corridor was used as a garage with entrance through a large truck door in the west wall of the building. This door still exists but is bricked up both outside and inside.

The space east of the corridor now occupied by our prep. room and chemistry laboratory was the original location of the Department of Dairying.

In 1927 the University garage, which was torn down in 1959, was built and the Department of Dairying moved into the newly vacated garage space, 50' square, in the west end of

the South laboratory. This space along with the above-mentioned corridor is now occupied by our processing room and cold storages.

Fig. 1 shows the floor plan of this area as occupied until 1930.

In 1930-31, the lecture room was done away with, the desk laboratory was extended to the north wall and a prep. laboratory was included. Gradually, the storeroom absorbed the cloak-room and a toilet entrance was cut through the storage closet opening into the lobby.

In 1931 the Provincial Dairy Analyst, Dr. Linneboe, who had been provided laboratory accommodation in the Medical Building, was moved to the Department of Dairying laboratory. This accommodation was requested by the University President, Dr. R.C. Wallace, and was to be for one year only. At the end of that time, the Department of Civil Engineering was to move from the South Laboratory into a proposed new building and Dairying was to be allotted all the space it desired, even the entire ground floor of the South Laboratory.

The Engineering Building did not materialize and Dr. Linneboe's work was crowded into the north end of the desk lab.

Just at the outbreak of World War II, the machine shop was moved from the south west corner of the second floor of the South Laboratory to a location above the present printing shop. The vacated space was to be re-designed as a laboratory for Dr. Linneboe and a research lab for Dairying, as well as some extra space for Household Economics.

Plans were drawn but before implementation, the R.C.A.F. was given the space as a nutritional laboratory. Later, a small research laboratory, 20' square was equipped for Dairying in the north west corner of the second floor of the South Laboratory. The Government, wishing to expand Dr. Linneboe's services, became justifiably impatient and established the Provincial Dairy Branch Laboratory on the north side of the river.

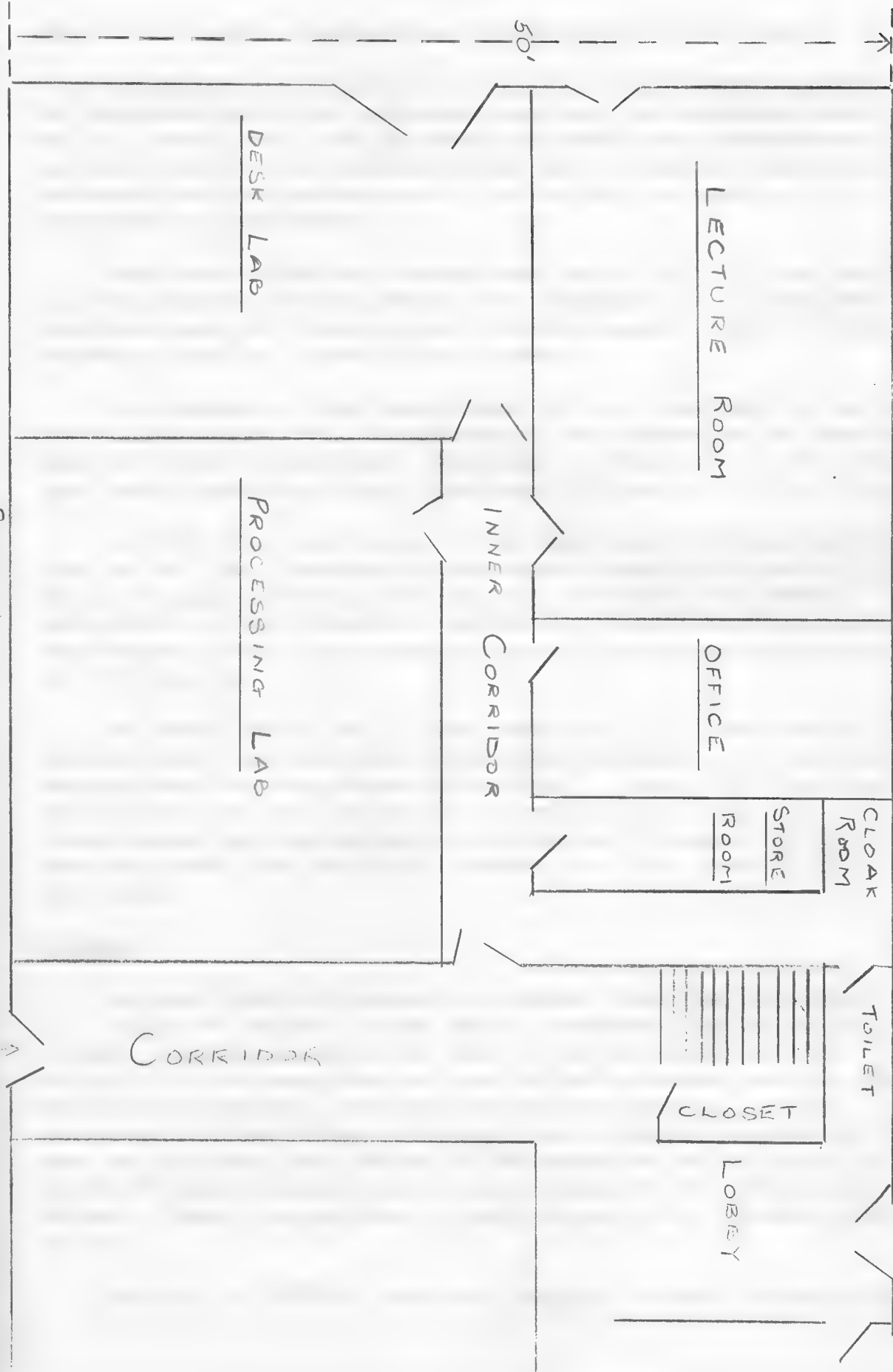
Later, the inner corridor was discontinued with a consequent slight enlargement of the processing room. The ladies' washroom across the lobby was moved upstairs and the space was taken over as a storeroom for the Department of Dairying.

- 2a -

Scale 1/8" = 1'

South

Fig. 1. Department of Dairying - Floor Plan - 1928.



The old enlarged storeroom was turned into office space.

Immediately following the war, the north-south corridor was absorbed into the Department and the refrigerators were built. There still was no space to handle the cheesemaking, particularly in the Diploma Course, and therefore two stalls in the University garage were fixed up and equipped as a cheesemaking laboratory.

When the Rutherford Library was built in 1951, the former Agricultural Reading Rooms were equipped as offices for the Department of Dairying and the processing laboratory was expanded into the former office space.

The removal of the Department of Civil Engineering to its new building provided an opportunity for expansion of Department of Dairying space and occupancy of the present area occurred over a period of about two years following the mid '50s.

In 1929 the floor area of the Department of Dairying was 2500 sq ft. This gradually increased slightly following World War II to approximately 3600 sq. ft. including the cheese laboratory in the University garage and a bulk storage space in a Quonset hut of post war vintage. The present floor area is 7100 sq. ft.

Following World War II the concrete slab constituting the floor of what was then the processing laboratory was removed and replaced by the present tile floor. Later this was continued into the untiled areas to complete the flooring and floor sewers were connected to a deep and adequate outlet emerging under the south wall about 20 - 25 ft east of the west wall.

COURSES

In the 1918-19 University Calendar, Dairying is listed as a required subject in the Animal Husbandry option but no number, description or other mention of dairying is made. Dairying is not mentioned in the 1919-20 Calendar but the following year 1920-21, the year before the creation of the Department of Dairying, Dairying I was required in the 2nd year of the four year course in Agriculture and Dairying 51 in the Animal Husbandry and Soils options of the three year course. These two courses in Dairying are not, however, described.

During the 1921-22 session, Dairying 51 and 52 were offered,

each consisting of three hours for the year. The former was on the basis of farm dairying and the latter involved the factory manufacture of butter and cheese. Two years later Dairying 53 and 54 had been added but apparently subject material was largely a duplication. By 1926-27 only Dairying I 53 and 54 were offered.* Dairying I was a three hour lecture-lab course for a year and was of an introductory nature. Dairying 53 covered the Babcock, Titratable acidity and Kohman tests, while factory buttermaking and cheesemaking occupied the class time in Dairying 54. The general level of the course material was that of a restricted sub-collegiate short course.

During the 1929-30 session, George W. Scott taught Dairying 54 and H.R.Thornton assumed responsibility for Dairying I and 53 and Bacteriology 52 and introduced a course in Dairy Bacteriology. Bacteriology 52 was soon removed from the Department of Bacteriology and became Dairying 55, while the Dairy Bacteriology course became Dairying 56. For the first time some dairy science was introduced into the course material, although Dairying 54 remained at an elementary level until the 1934-35 session.

After 1929, Dairying I underwent gradual evolution from a three hour lecture-three hour lab half-year course, ultimately to a three hour lecture full year course without laboratory. The Departmental personnel found it impossible to handle all the laboratory sections, which at one time reached five.

When Dr.Dunkley was appointed as a full time staff member during the War, Dairying 54 was discontinued and Dairying 50 was substituted. This was a standard three hour lecture-three hour lab course. Dairy Chemistry as Dairying 70 was introduced into the curriculum and Dairying 53 (later Dairying 51) was reserved for Animal Science and General Agriculture students.

TEACHING STAFF

In the early '20s the lecturing was done by Dr.C.P. Marker, who was assisted in laboratory by other members of the Dairy Branch staff. By the late '20s the lecturing was done by Mr. George W.Scott of the Dairy Branch staff, who was assisted in laboratory by Mr.William Rourke, also of the Dairy

* Dairying 53 and 54 were each half-year, 3-hour lecture-lab courses.

Branch staff. Mr. Scott had an O.A.C. Diploma in Dairying obtained in 1898. None of the Dairy Branch staff was in the employ of the University: none received University pay and the University duties were a mere sideline of a part-time nature.

The first teacher with college training, the first full-time member of the staff and the first member of the Department paid by and in the employ of the University was Dr.H.R. Thornton, who was appointed Professor of Dairying as of September 1st, 1929. He was in no way attached to the Provincial Dairy Branch and was solely and wholly a University appointee and employee.

He was told by Dr.Wallace, the President of the University, that expansion and development of the Department of Dairying was planned, that his appointment was the initial move in that direction and that he would be held responsible for Departmental matters and for advice as to future development. The financial depression hit the University suddenly and with force in April, 1931, before the proposed expansion was out of the planning stage and nipped development in the bud.

Dairying I, 53, 55 and 56 were taught by H.R.Thornton while Mr. George Scott continued to teach Dairying 54 until there was a complete severance of University and Dairy Branch duties on the retirement of the Dairy Commissioner, Dr.Marker, in 1934.

The teaching of the processing course, Dairying 54, was always a thorny problem as it was impossible to add to the staff of the Department during the 1930's. This course was taught by various special instructors as they happened to be available for part-time duties. These included W.C.Cameron, F.W.Wood, N.J.Strynadka, John Keay, Ralph Hanson and W.L. Dunkley. Although all of these were college graduates, it was impossible to raise the scientific level and standards in processing to a true University level because of lack of time as well as lack of graduate training of the teachers.

On the retirement of Dr. Marker in 1934, H.R.Thornton became Head of the Department. During World War II he carried heavy duties in the R.C.A.F.University Air Training Corps, and a graduate student, Walter L. Dunkley, was added to the staff as a part-time assistant. He was able to complete studies for a Ph.D. at the University of Wisconsin and as Assistant Professor assumed full-time duties on the staff.

The processing training was extended as Dairying 50 into a standard year-long course and a standard year course in Dairy Chemistry was added as Dairying 70.

When Dr.Dunkley resigned in 1946, F.W.Wood was appointed to fill the vacancy with the rank of Assistant Professor. L.M.Smith registered as a graduate student in Dairy Chemistry and taught Dairying 70 as well as carrying certain duties in the newly incepted Diploma Course. On completion of his Ph.D. studies at the University of California, he was appointed to the permanent full-time staff with the rank of Assistant Professor. After two years he also resigned and Assistant Professor Wood assumed responsibility for Dairying 70.

This was then, the status quo on September 1st, 1958 when Dr. H.R.Thornton retired and Dr.L.F.L.Clegg was appointed as Professor of Dairying and Head of the Department.

NON-TEACHING STAFF

Until 1929, the necessary typing appears to have been done in the Dairy Branch office. From 1929 to 1941 the Dean's secretary did the typing also for Dairying, Entomology and Horticulture. Miss Ada Forbes in 1941 was employed for the needs of the three Departments and was housed in the General Office. In 1946 she became the stenographer for Dairying only and was housed in the Department. Since then stenographic incumbents have included Mrs. Nora Sherrill and Misses Helen Potts, Joan Nairn, Irmgaard Buss and Irene Short.

The duties normally falling to a laboratory technician were taken care of in a desultory manner by students employed by the hour or by fly-by-night employees. In 1946, William McBride was hired for the job, but he resigned within the year his place being taken by R.A.Young, who left in 1957 to enter the employ of the Provincial Civil Service. Chris Boars was then in the position for a year and was followed by Stanley Rowe.

SHORT COURSES

Since 1921 all dairy short courses offered in this Province, have been held in the Department of Dairying and have been a joint responsibility of the Dairy Branch and the Department of Dairying. Until 1934 it was difficult to separate the responsibilities of the University and the Dairy Branch as the personnel was the same. During this time, it is probable that no short course was of longer duration than two weeks. The emphasis was on grading and testing as at that time the grading and testing in the plants was done by employees of the Dairy Branch.

In 1935 a three week buttermaking course was offered and after expansion to four weeks the following was offered yearly until 1946 when the Diploma Course was initiated, which lasted until 1959. During the war two four-week buttermaking courses were offered in certain years as well as special two-week testing courses for women. It was at this time that the short courses first received support from Canadian Vocational Training. In 1936 and again in 1941, two-week cheesemaking courses were offered, the chief instructor for which was Mr. T. Hicks, the head Federal Cheese Grader in Ottawa and Montreal.

A pasteurization short course was held in the early fifties for small milk plant operators and a two-week short course for frozen food locker plant operators was particularly successful. Diploma Courses in Dairying of approximately six months' duration have been held during the sessions: 1945/46, 1946/47, 1947/48, 1948/49, 1949/50, 1951/52, 1953/54, 1955/56, 1958/58 and 1959/60. (See Appendix "D")

BUDGETS

The Departmental budget for the 1929/30 fiscal year was \$500 for capital expenditures and \$500 for current expenditures. The budget, less salaries for the intervening years are listed in Appendix B.

Although no capital budget was available between 1931 and 1946, certain expenditures of a similar nature were required as replacements, etc. but had to be taken care of from current budgets.

GENERAL COMMENT

From 1917 until 1929 the instruction in dairying given to the degree students in Agriculture was on the general level of an elementary and restricted sub-collegiate course in dairying. Instruction in the dairy processing course was not raised above this level until after 1934. The inevitable conception was forced on the students and staff of the Faculty of Agriculture, and indeed throughout the University as a whole, that dairying and dairy instruction do not involve science in any way and the inclusion of dairy education in Universities is lésè majestè. This attitude has not entirely disappeared even now and has been the biggest problem confronting the Department and the most solid barrier to progress.

APPENDIX "B"

Fiscal Year	Budget		
	Current	Capital	Other Sources
1930/31	\$1,700	\$2,312.50	
1931/32*	\$1,550	\$2,325.00	
1932/33	\$1,000		
1933/34	\$1,000		
1934/35	\$1,000		
1935/36	\$1,250		
1936/37	\$1,250		
1937/38	\$1,250		
1938/39	\$1,250		
1939/40	\$1,250		
1940/41	\$1,250		
1941/42	\$1,250		
1942/43	\$1,250		
1943/44	\$1,250		
1944/45	\$1,250		
1945/46	\$1,250		
1946/47	\$2,000	\$4,500 for refrigeration	
1947/48	\$3,500	\$3,200 for balances, etc.	
1948/49	\$3,500	\$6,500 for HTST + \$5000 for floors, etc.	
1949/50	\$3,460	\$1,300 for churn	
1950/51	\$3,400		
1951/52	\$3,440		
1952/53	\$3,565		
1953/54	\$3,560		
1954/55	\$3,555		
1956/57	\$3,555		
1957/58**	\$3,540		
1958/59	\$3,540		

* A few days later, current was cut to \$1,000 and capital entirely eliminated.

**From 1954 - 1958 funds of \$5000 per annum were received from the National Research Council Federal Department of Agriculture, E.M.R. and Defence Research Board.

It is highly probable that dairying instruction to University students during the 1920's did far more harm than good and should have been delayed until the University was prepared to place it on a reasonable University level.

SECTION II

With the retirement of Dr.H.R.Thornton, the position of Head of the Department was filled by the appointment of Dr.L. F.L.Clegg from the National Institute for Research in Dairying, Shinfield, Berkshire, England. At that time the strength of the Department consisted on the Head, one Assistant Professor (F.W.Wood) a technician and a secretary and also one research assistant (J.M. deMan) who was completing studies for his Ph.D. (This was the first Ph.D. in the Department, amongst the first twenty in the University and the first doctorate in Canada for work done in a dairy department.)

Because of the smallness of the teaching staff the President recommended that Dr.H.R.Thornton be retained on a half-time basis to teach two half courses and thus ease the teaching load of the Department Head.

Permission was sought and granted to increase the academic staff by the appointment of J.M. deMan as Assistant Professor in Dairy Chemistry following the successful completion of his Ph.D. degree. Dr. deMan completed these studies with distinction and was appointed to the academic staff on April 1st, 1959.

With Dr. deMan's appointment, it was possible to create three divisions in the Department according to the disciplines taught viz, Dairy Chemistry, Dairy Technology and Dairy Microbiology. At about this time (Spring 1959) approval was sought to change the name of the Department from 'Dairying' to 'Dairy and Food Science'. Approval was not given for this change but a modification to 'Department of Dairy Science' was approved by the Board of Governors.

Following the successful graduation of one Ph.D. candidate, the Department was given permission to offer instruction for the Ph.D. degree as well as the M.Sc. degree. (Previously this authority had been vested in a special inter-departmental committee.)

Under the former Head, Dr.H.R.Thornton, a Diploma

Course in Dairying was inaugurated in 1945 and was offered annually for the first five years and biannually for the next ten years. This course was of six months' duration and there was some suggestion from the dairy industry that staff could not be spared for such a long period. A decision had to be taken whether to modify the course in keeping with the request from a section of the dairy industry. Before making such a decision, Dr. Clegg considered he would like to see the course in operation in its existing form. Accordingly the six months' course was put on in 1959-60 and Dr. Thornton was invited to take charge of the course.

Subsequently after deliberations of a special committee formed from industry, government departments and the University, a modified course was devised lasting one month which was to be offered every year. The course consisted of two parts (a) two weeks of basic theory of general dairying and (b) two weeks of more practical training on market milk, ice cream, cottage cheese; or butter, general cheesemaking, condensed milk; or milk production and dairy field work. These courses have been held every year since 1960. A summary of the number of students who satisfactorily completed the Diploma and Dairy Short Courses is given in Appendix "E".

All students in the Faculty until 1962 were obliged to meet each of the then existing six departments with one full course. The Department of Dairy Science had been at a disadvantage because for a number of years prior to 1960 it did not effectively meet the students until their third year with Dairy Science 240. By this time, of course, the students had made their decisions on specialization and few, except those specializing in Dairy Science, wished to take the course! There was one other department also in this position (Entomology). It is possible that this mal-arrangement of the time-table had a depressing effect on the number of students specializing in this Department. For this and other reasons there was agitation for a change in the curriculum which subsequently culminated in the omnibus course Agr. 201 whereby every department met all students for at least 13 lectures. The wisdom of the subsequent modification of Agr. 201 so that each Department met first year students with only two or three lectures, is open to question.

UNDERGRADUATE PROGRAMS

Until 1958 there had been two programs for undergraduates specializing in the Department, either dairy science or agri-

APPENDIX "D"

DIPLOMA COURSE IN DAIRYING

<u>Year</u>	<u>Diploma</u>	<u>Certificate</u>	<u>Failed</u>
1945-46	7	7	1
1946-47	2	8	1
1947-48	1	8	4
1948-49	9	10	-
1949-50	4	8	-
1950-51	-	-	-
1951-52	2	9	-
1952-53	-	-	-
1953-54	3	6	-
1954-55	-	-	-
1955-56	6	3	2
1956-57	-	-	-
1957-58	6	9	-
1958-59	-	-	-
1959-60	8	5	1

APPENDIX "E"

DAIRY SHORT COURSE

<u>Year</u>	<u>No. in Course</u>	<u>Certificate</u>	<u>Failed</u>
1961	22	22	-
1962	10	10	-
1963	21	15	6
1964*	12		

*Results not yet known

cultural bacteriology. The rapid advances in food technology paralleled by teaching of food science in many Universities in the Commonwealth, Europe and the United States made it obvious that a program leading to a degree in Food Science should be instituted in the Department so that the future needs of the food industry could be met. The similarity in processing and in basic science of dairy and other food products made the Department a particularly suitable place to carry this out.

This was not a sudden change in policy in the Department as most of the courses taught had given some information on preparation and quality control of various foods and beverages.

Approval was given to this program in 1961 and as a result several of the courses which had previously in the title 'dairy and food' were split into half courses, one labelled 'dairy' and the other 'food'.

It is to be emphasized that this program did not duplicate anything taught in Household Economics, the main emphasis being on food processing in the factory rather than cooking in the kitchen.

The following year (1962) a fourth program was instituted, that of milk production. A degree in this subject was intended for the milk producer, the dairy fieldman or representatives of firms associated with the dairy farmer. This program was devised in consultation with the Department of Animal Science and because that Department is responsible for feeding and breeding, the program consisted of a major in Dairy Science Department and a minor in the Animal Science Department. A reciprocal program also exists with the majors and minors reversed. Because feeding is part and parcel of milk production this program was termed 'Dairying' thus also distinguishing it from 'Dairy Production' taught by the Department of Animal Science.

With the institution of this program, the teaching and research embraced the production and processing of milk and food products and (with the introduction of a new course) also industrial fermentations, in addition to food and beverages.

Together with the expansion in undergraduate teaching, an expansion was also be^{ing} pressed forward with graduate work. This was initially dependent on financial support from both inside and outside the University for supplies, equipment and the stipends of research assistants. Such support has been in addition to the University budget in the shape of University Scholarships and Assistantships and grants and similar finan-

cial aid from the National Research Council, the Canada Department of Agriculture, the Defence Research Board and the Special Dairy Industry Board. (See Appendix "C")

The numbers of graduates have increased from 1 in 1958 to approximately 20 in 1964 and have been recruited literally from all parts of the world. The growth in the number of graduate students is shown in Appendix "F".

The full plans for the proposed development of the Department have been set out in a document to the Campus Planning Committee and will not be gone into here. However, as part of that planned development in keeping with the increased intake of students, additional permanent staff have been appointed. One of these was a new Assistant Professor in Dairy and Food Microbiology. This vacancy had been approved in 1962 but no appointment had been made that year because of a dearth of suitable applicants. The vacancy was again advertised in 1963 and the successful applicant was one of our own graduate students who was appointed, subject to the successful completion of his Ph.D. degree. Dr. Harold Jackson was appointed to the academic staff in October 1963.

Before and since that time there have been promotions in the academic staff and other additions. At the time of writing the staff of the Department was as follows:

- 1 Professor and Head;
- 2 Associate Professors;
- 1 Assistant Professor;
- 4 Graduate Teaching Assistants;
- 1 Graduate Research Assistant;
- 4 Technicians;
- 1 Secretary;
- 1 part-time Secretary;
- 1 Clerk-Stenographer.

ACTIVITIES OF THE MEMBERS OF THE ACADEMIC STAFF AND HIGHLIGHTS OF THE DEPARTMENT

Prior to taking up duties in the Department, Dr.L.F.L. Clegg was co-editor of the Journal of Applied Bacteriology but since September 1958 relinquished these duties to become Assistant Editor of this journal and also assistant-editor of the Canadian Society of Microbiology and the Journal of Dairy Research. He is on the Faculty Council of Graduate Studies and on the Electron Microscope Committee and in 1962 was elected a Fellow of the Institute of Biology (F.I.Biol.)

APPENDIX "C"

Fiscal Year	Budget		
	Supplies & Sundries	Capital	Other Sources
1959/60	\$3,600	\$12,781	\$4,300
1960/61	\$6,650	9,179	22,340
1961/62	8,600	22,241	32,785
1962/63	16,500	13,165	27,421.31
1963/64	16,500	14,480	29,278.12
1964/65	16,500	11,305	34,046.09

APPENDIX "F"

Degrees awarded to the following Dairying Majors:

<u>Year</u>	<u>B.Sc.</u>	<u>M.Sc.</u>	<u>Ph.D.</u>
1929	Obee, C.G.		
1930	Ehrlich, H.		
1931	Moisey, W.A.		
	Wood, F.W.		
1932	Strynadka, N.J.		
1933	Jackson, C.J.	Wood, F.W.	
1934	Proskie, J.	Strynadka, N.J.	
1935		Jackson, C.J.	
1936	Gillespie, C.C.		
	Hanson, R.		
1937	Malcolm, C.K.		
1938	Jackson, W.H.		
	McCallum, M.		
	Wolochow, H.		
1939	Dunkley, W.L.		
1940	Campbell, D.L.	Wolochow, H.	
	French, D.		
1941	McAllister, G.A.	Dunkley, W.L.	
	Reynolds, R.		
	Christensen, R.W.		
1942	Stuart, G.W.		
	Bicknell, J.E.		
1943	Smith, L.M.	Reynolds, R.	
1944	Woods, K.		
1946	Lubert, D.J.	Woods, K.	
1947	Erdman, T.E.		
1948	Davidson, D.F.		
	Shaw, R.K.		
1949	Bassett, A.D.	Lubert, D.	
	Burton, L.J.	Smith, L.M.	
	Clarke, J.S.		
	Hamula, E.V.		
	Jorgenson, D.J.		
	Nelson, G.A.		
	Woodbridge, W.G.		
1950	Bell, D.A.	Erdman, T.E.	
	Findlay, J.R.	Shaw, R.	
	Hansen, S.A.		
	Harke, C.J.		
	Harrison, F.		
	Madsen, N.B.		
	Seath, L.G.G.		

APPENDIX "F" continued

Year	B.Sc.	M.Sc.	Ph.D.
1951	Summers, M.	Nelson, G.A.	
1952	Hansen, H.A.	Hansen, S.A. Madsen, N.B.	
1953	Duggan, D.		
1954		Hansen, H.A. Haab, W.	
1955	Hill, D.A.		
1958	Brown, B.R.		deMan, J.M.
1959	McKnight, L.M.		
1960	Ottewell, L.		
1961	Smith, D.	McKnight, L.M. Whitehouse, R.L. Thomasos, F.I.	
1962	Christiansen, D. Kaldy, M. Riedel, G. Wrigglesworth, M.		Alsafar, T. Azuma, Y.
1963	Brotonegoro, S.	Mei, H.M. Batra, S.C.	Engelhardt, J. Jackson, H.
1964	Baker, H.S. Ballantyne, W. Schroder, D.J.	O'Callaghan P.A.	Boudreau, A.

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In 1959 Professor F.W.Wood was invited by the Cherry-Burrell Corporation of Cedar Rapids, Iowa, U.S.A., for consultations on problems associated with the continuous method of buttermaking developed by this firm. This invitation was prompted by the research completed at that time by Dr.J.M. deMan and Professor Wood on the physical properties of "Gold'n Flow" butter which is made by the Cherry-Burrell process.

In November 1963, Professor Wood was the official Canadian delegate to the International Dairy Federation Annual Meeting held at Massey University of Manawatu, Palmerston North, New Zealand, where he was engaged in research at the Dairy Research Institute while on sabbatical leave.

Dr.J.M. deMan has been an active member of this Department and some of his 'high-light' activities are as follows. 1961, appointed to the Canadian Committee on Fats and Oils (National Research Council). 1962, member of the official Canadian delegation to the International Dairy Congress in Copenhagen where he was appointed Chairman of one of the scientific sessions. In the same year he lectured to staff at the Unilever Research laboratories in Holland on research on milkfat that had been carried out in this Department. He presented a paper at the 1st International Congress on Food Science and Technology and attended a study course in England during this period. He was appointed to the working committee, National Dairy Federation on Adulteration of butterfat; invited to serve on the Scientific Committee of the 1st World Congress of the International Society for Fat Research in Hamburg, Germany; is Chairman of the Western Canada Membership Committee of the American Dairy Science Association. Another of Dr. deMan's activities is abstracting for Dairy Science Abstracts and Chemical Abstracts.

The Department has played quite a large role in organizing the Alberta Section of the Canadian Institute of Food Technology and one of the annual high-lights is the combined activity of the C.I.F.T. and this Department in putting on a Symposium. The purpose is to get all technical personnel together who are in one way or another technically involved with the production, handling and storage of food across Canada. The C.I.F.T. is a professional organization. Regular meetings are also held to discuss scientific problems related to the food industry.

CO-OPERATION WITH THE ALBERTA DAIRYMEN'S ASSOCIATION

This Association is probably a unique organization in Canada in that it has members from both the processing and

production sides of the industry. The Department of Dairy Science has co-operated fully with this association at its annual conventions and has usually contributed to some part or other of the program (a note of interest here - pretty Miss Doris Wylie, a 2nd year Agricultural student, specializing in Dairying was the Alberta Dairy Princess for 1964 and the runner-up in the National Dairy Princess competition).

In 1962 a resolution was put forward by Mr. Grant Carlyle of Calgary and seconded by Dr. L. F. L. Clegg to the effect that the Association should form an Advisory Committee with the intention of improving the quality of milk and dairy products in the Province so that they compare favourably with those in the rest of the country. In order to do this four Technical Sub-Committees were set up as follows and the extent of departmental participation will be seen by the membership lists.

- (a) Technical Sub-Committee on Chemical and Physical Properties of Milk and Dairy Products;
- (b) Technical Sub-Committee on the Microbiological Quality of Milk and Dairy Products;
- (c) Technical Sub-Committee on Radioactive Fall-out in Milk and Dairy Products;
- (d) Technical Sub-Committee on Antibiotics, Pesticides, Herbicides and other Adulterants in Milk and Dairy Products.

There are a number of high-lights of these committees which it is worthwhile mentioning here.

- (1) The production of the "Alberta Plan" for monitoring milk for radioactive fall-out and the drawing up of measures for action to be taken in the event of milk being contaminated with Iodine 131 at a rate in excess of 36,500 micromicrocuries in a year;
- (2) The consideration at Cabinet level of the respective activities in the dairy field of the Department of Agriculture and Department of Health;
- (3) Work on a new rapid test for the determination of fat content of butter and a single standard for butter;
- (4) A survey of the instances of antibiotics in pasteurized milk.

The members of the Technical Advisory Committee and the Technical Sub-Committees are listed as follows:

Advisory Committee:

Mr. J.Eaket,	Dr.E.E.Ballantyne,	Mr.F.E.McCalla,
Mr.D.H.McCallum,	Dr.E.S.O.Smith,	Dr.L.F.L.Clegg.

Technical Sub-Committee (A):

Dr.J.M. deMan,	Mr.S.A.Hanson,
Mr.H. Price,	Mr.T.A.Patterson.

Technical Sub-Committee (B):

Mr. A.D.Bassett,	Mr.J.E.Doan,	Dr.L.F.L.Clegg,
Mr.G.McAllister,	Mr.D.H.McCallum,	Mr.J.Broomhall,
	Mr.T.A.Patterson.	

Technical Sub-Committee (C):

Mr.J.Bailey,	Dr.J.M. deMan,	Mr.E.E.Peterson,
Mr.S.Thomas,	Dr.L.F.L.Clegg,	Dr.J.T.Sample,
Mr.W.H.Taylor,		Mr.J.M.Wetherell.

Technical Sub-Committee (D):

Dr.V.M.Kadis,	Mr.R.P.Dixon,	Mr.W.F.Daniels,
Mr. E.McLeod,		Mr.J.M.Bentley.

INDUSTRIAL SUPPORT FOR RESEARCH

In 1958, the Alberta Dairymen's Association formed an Education Committee with the idea of assisting the Department of Dairy Science with the research work that it planned to undertake in the shape of financial help for capital equipment and other supplies. One of the earliest activities of this Committee was to assist the Department by bearing the expense (\$500) of transporting a butter homogenizer from Germany to this Department.

This Committee has been interested in the research work under-taken by the Department and as a result a report has been made annually to the Committee of the results of research work which might have been of assistance to industry.

In 1963 the Committee offered additional financial support for research workers to carry out investigation of problems which were of immediate interest to the industry. Dr.Clegg indicated that it would not be wise for the Department

to accept financial support for individual research workers whose work would have to be directed by one or more of the existing academic staff in the Department. He explained that each of the academic staff had heavy teaching and research loads at present and that it would not be fair for this load to be increased. However, if industry were prepared to sponsor a research team consisting of a Director of Research and one or two research workers, then this would not add an undue burden to the Department. Dr.Clegg indicated that the minimum financial support for such a research unit would be \$15,000 annually for a minimum period of 3 years. He further indicated that the Director should be responsible to the Head of the Department of Dairy Science and should also report to the Education Committee of the dairy industry on work done and receive suggestions from the industry as to problems they would like to see tackled. The industry agreed that it was prepared to sponsor a research unit on these terms and the finances of this would be found by a levy of (a) One-twenty-fifth of 1% per pound of butterfat purchased in the form of fluid cream and used for retail sales or in manufacturing departments AND (b) One-tenth of 1% per hundred pounds of milk purchased and used for retail sales or in manufacturing departments. The levy commenced July 1st, 1964 on this agreed basis, the whole of this being provided by the processing side of the industry and not by the production side of the industry.

This project was approved fully by the Board of Governors of the University as a project which should be encouraged by the University. Accordingly an Appointments Committee was formed, consisting of members of the dairy industry, the Government Dairy Branch and the University to consider applicants for the post of Director of Research. Competition for this post was good. Six research workers applied, all of whom held the degree of Ph.D. Dr.T.S.Rajan was selected as the most suitable candidate because of his experience in dairy industry research at Foremost Dairies Inc., San Francisco.He is to assume his duties late in the year of 1964.

NAME OF THE DEPARTMENT

As mentioned earlier in this history, there had been an inclination for a number of years on behalf of members of the Department to have the name changed to "Department of Dairy and Food Science". The reasons behind this desire were:
(a) to provide qualified food and dairy scientists for an ever expanding industry whose technological advances were proceeding at an accelerating rate and also to provide teachers who can

train others in the processing and preservation of foods in the expanding world population;

(b) to offer to another segment of would-be University scholars an education not hitherto available in this Province.

In October 1964 approval was given to this name change by the Faculty of Agriculture Council and the General Faculty Council and in November 1964 by the Board of Governors.

This then is the story of the Department that started out as the "Department of Dairying" and carried through to the present "Department of Dairy and Food Science".



Dr. C.P. Marker
First Dairy Commissioner and
first Professor of Dairying.



Dr. H.R. Thornton
First Professor of Dairying employed
by University of Alberta.



ACADEMIC AND NON-ACADEMIC STAFF - 1964

BOTTOM ROW - Dr. J.M. deMan, Prof. F.W Wood, Dr. H.R. Thornton, retired, Dr. L.F.L. Clegg -
Head of Department, Dr. H. Jackson.

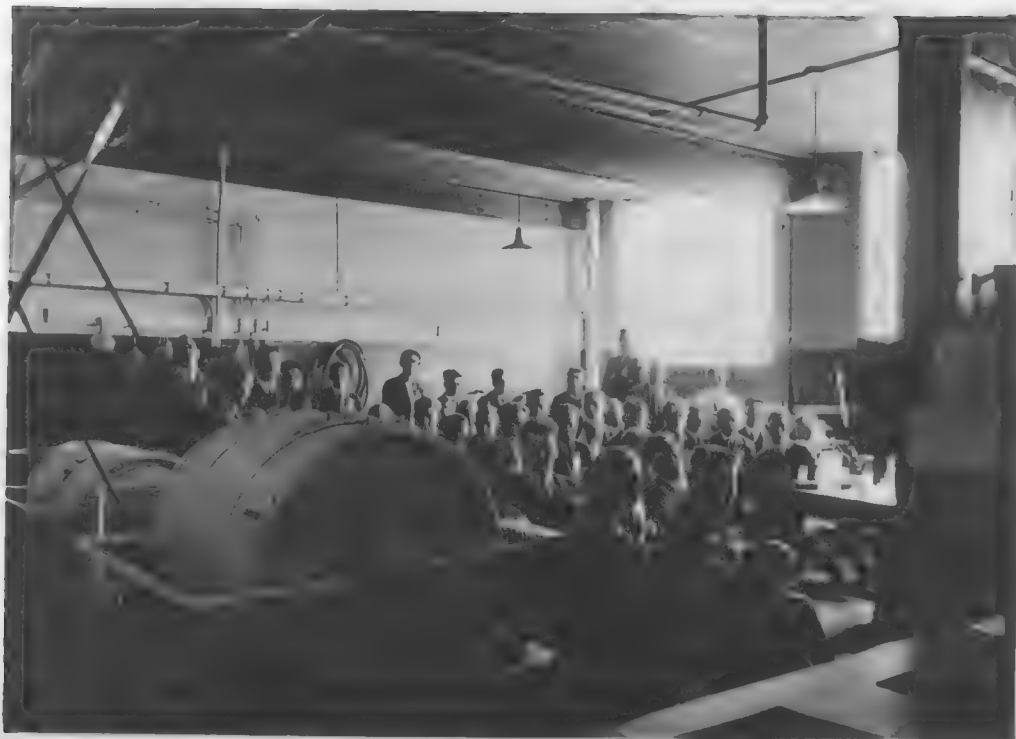
TOP ROW - A. Hamilton, C. Dion, E. Sorensen, Mrs. C.A. Wood, A. Dylke, H. Jaussi.



DAIRY LABORATORY - 1929



DAIRY LABORATORY - 1929



DAIRY SHORT COURSE - 1926

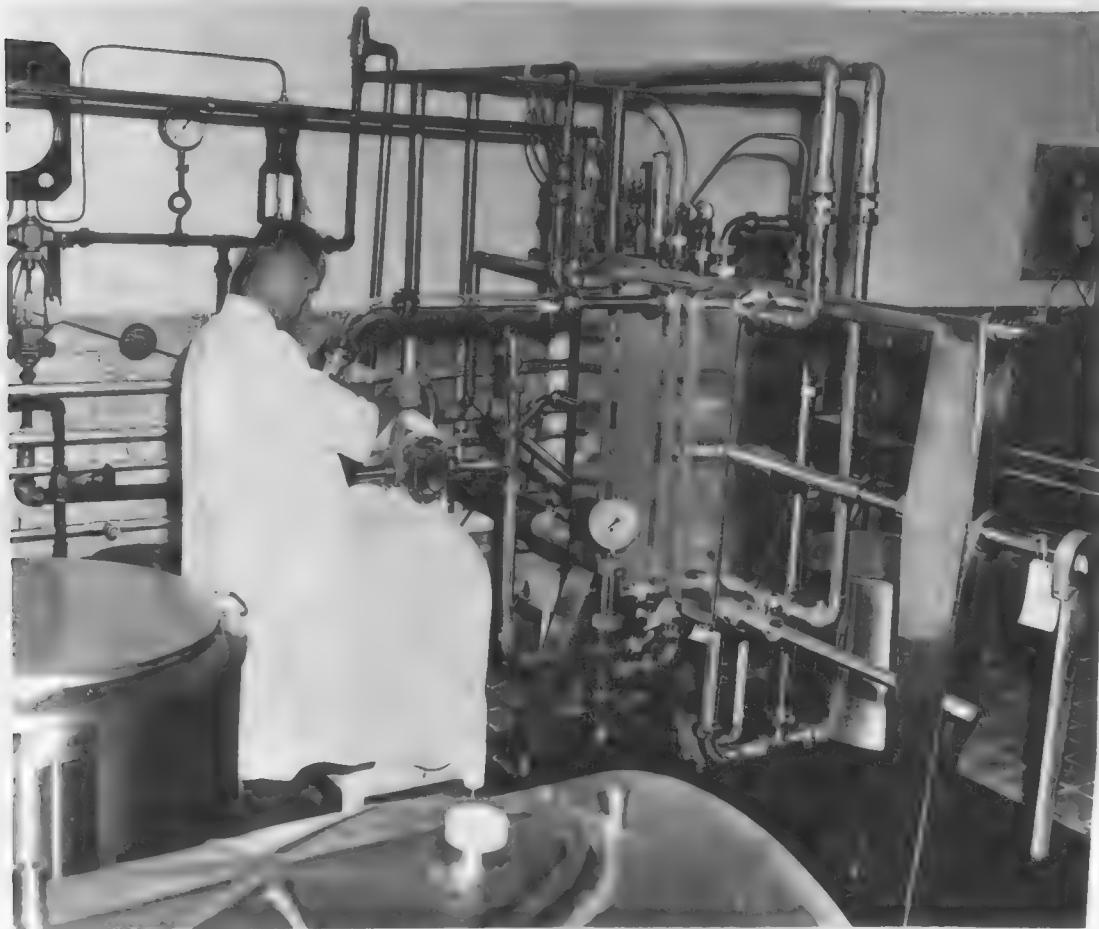
(2)



DAIRY SHORT COURSE - 1964



CREAM PASTEURIZERS AS THEY WERE IN 1929.



STERILIZATION OF MILK WITH AN ULTRA HIGH TEMPERATURE PLATE HEAT EXCHANGER.



MISS DORIS WYLIE - 1964 ALBERTA DAIRY PRINCESS. RUNNER-UP - NATIONAL DAIRY PRINCESS COMPETITION.



SOUTH L. BOW TOWN - PRESENT LOCATION OF THE
DEPARTMENT OF
DAIRY AND FOOD SCIENCE

A HISTORY
OF THE
DEPARTMENT OF ENTOMOLOGY
UNIVERSITY OF ALBERTA

to 1965

by
Brian Hocking

Early Years

In the summer of 1921, E.A. Howes, Dean of the Faculty of Agriculture, University of Alberta, approached E. H. Strickland, then in charge of the Dominion Entomological Laboratory at Lethbridge and trained at London and Harvard with the offer of the position of Professor of Entomology. The offer was accepted and the position was created in April, 1922.

An initial duty was to frame a pest act for the province. One, drawn up with the advice of the Dominion Department of Justice, was prepared during the winter of 1921-22 and was presented to the Albertan Minister of Agriculture on the day after Strickland reported for duty. By this date, however, a locally prepared one was already in its second reading in the Legislative Assembly. A perusal of this indicated that it would prove to be inoperative. As soon as the Minister was convinced that this was so, he asked that it be remodelled to conform with the more recent proposal but insisted that any changes appear as "revisions" and not as a complete replacement. This was no easy task since the two acts had little in common. The present Destructive Insects and Pests Act of Alberta represents the compromise.

The chief duty for the year was organizing a Government controlled grasshopper campaign. By this year the outbreak, which originated in 1918 and was the first experienced in the province, threatened complete destruction of all crops in the southern half of the province. It originated with Camnula pellucida along the banks of the Old Man River near Monarch, but was supplemented by a more general infestation by Melanoplus sanguinipes between Medicine Hat and Lethbridge in 1920. Both species subsequently spread northward annually.

This Department assumed control of the campaign with the administrative assistance of Mr. Z. McIlmoyle, Assistant Deputy Minister of Agriculture. Authority was granted for a concerted effort to terminate the outbreak rather than confining attention to the reduction of current losses without regard to the future. An estimate of the cost was a quarter of a million dollars. The greatest expense was the location and treatment of all areas of unoccupied land, particularly vast tracts of deserted farms which, at the time, were a feature of the drier areas in the south of the province. During the previous three years, steadily increasing swarms of grasshoppers had flown from these to cultivated and treated fields, reinfesting them with eggs.

Thousands of volunteers were pressed into service from financially interested villages, towns and cities in the affected areas. Despite these, the year's final bill to the province was \$248,000. Shipping centres, however, estimated a total crop saving of \$18,500,000 in that year alone.

During the following year, the opposition (Liberal) party of the Legislative Assembly invoked the "Public Expenses Committee" to investigate the "serious misappropriation of unauthorized public funds". The Government threw the onus of vindicating its action on the Department of Entomology. An imposing array of documents was compiled which purported to show that Alberta had spent far more money on its campaign than had its neighbours, Saskatchewan and Montana. Both claimed to have conducted successful campaigns. The Department was rigorously questioned for two days in the presence of the entire Legislative Assembly. At the end of this time it was agreed that the government action probably had been justified though the summer of 1923 must be awaited before a final decision could be reached.

In the spring of 1923, all of the 120 to 130 mixing stations were prepared for bait distribution. Only along the extreme southern boundary were any requests made for supplies. In about ten days, the majority were permanently closed. No appreciable losses were recorded.

Meanwhile, the 1923 campaign was in full swing in Saskatchewan while the two counties, Hill and Liberty, in Montana which adjoin Alberta were declared bankrupt. All elevators were closed for the season since grasshoppers had destroyed every vestige of crops. Strickland, with other Department of Agriculture officials, was invited to attend an International Grasshopper Convention at Great Falls in order to explain how our results had been achieved. This was the only time the name of a member of the Department has appeared as the chief headline in a daily paper, in red letters at that.

During 1923 an independent outbreak of Camnula pellucida developed in the Peace River District. This required two years for its suppression, which was effected more by the weather than by anything else.

When, some ten years later, a second outbreak of M. sanguinipes developed in southern Alberta, all personnel of the Department of Agriculture who were familiar with the earlier outbreak were either retired or dead. The "depression" had started and their successors informed this Department that, as an economy measure, they desired to conduct their campaign without outside assistance. Despite our urgent representations regarding the danger of leaving unoccupied areas untreated, this aspect of control was never featured during

the campaign which appears to have been finally brought to a successful conclusion, under unusually favourable weather conditions, in 1953.

University Courses

In 1922 two courses, only, were offered and were confined to the Faculty of Agriculture: a compulsory course in economic entomology with no laboratory work for all freshmen, attendance up to 1939 varied from about 16-26, and a senior option in the same field with laboratory work. H. E. Gray, now Chief, Stored Products Pests Unit, Ottawa, took this course in 1922.

An adaptation of the senior option for Arts and Science students was first offered in 1923 when it was taken by 8 students including a later mayor of Edmonton, H. Ainley. In 1924 a senior course in taxonomy was added, and in 1926 the senior option for Arts and Science students replaced its parent and attracted about 20 students annually from both faculties. Thus at this early date the Department was fulfilling a dual role, contributing on the one hand to the training of students as biological scientists in company with the Departments of Botany and Zoology, and on the other hand working in the applied field of Agricultural Entomology. A more advanced course in taxonomy was added in 1931.

A course in Agricultural Entomology specifically designed for training District Agriculturists and including laboratory work was instituted in 1932 making a total of five courses offered by one man. Despite this a number of short courses were given to medical students, veterinarians, apiarists, and teachers in 1933. Then with the specific objective of preparing students for graduate work elsewhere, an increasing demand, a senior course in morphology to which some functional morphology and physiology were later added was offered. A graduate course in taxonomy was also added before war broke out in 1939. With a load of seven courses, it was hardly surprising that when 60 students registered in the compulsory economic entomology in Agriculture, Strickland chose the army.

With the absence of Strickland on military duties, instruction was given during the winter by R. W. Salt from 1940-42 and J. H. Brown from 1942-44 and the Department closed during the summers. Attendance remained rather high throughout the war years. In 1944 the first dribble of veteran students arriving

at the University did not greatly affect this Department, but from 1945-47 the enormous influx of these serious and capable students swelled all departments to capacity. Entomology took its full share of the load. In 1946, B. Hocking, a graduate of London, was appointed as a second member of the Department and, in 1947, with 167 students registered in various courses, more commodious quarters were found.

1948 was the peak year for registration in this Department, with a total of 210 students. Two new courses were now offered, both given by Hocking, a half-year course for pre-medical students, and a course in insect toxicology, both with laboratory work. From 1949-1953 registration had steadily declined to below the 100 mark. A reorganization of pre-medical requirements necessitated the withdrawal of the medical entomology course in 1951, but many of the students who would have taken it registered in the general introductory entomology instead.

Until 1946, this was strictly a one-man Department. In about 1925, however, a Mr. Owen Bryant asked that he be appointed as honorary curator to the insect collection. He was indefatigable as a collector and we hoped for great things from his appointment. Unfortunately, he quarreled seriously with the then University President and, in 1927, he resigned taking with him everything that he considered to be his personal property. This included all species which he had collected even if they were already incorporated in the reference collection. All subsequent additions to the staff have been salaried.

Efforts were repeatedly made to have a second permanent member appointed to the Department but it was not until 1945 that a recently appointed University President, Dr. R. Newton, gave any encouragement to the consideration of such action. Since this year corresponded with the influx of veteran students, several of whom not only elected to specialize in Entomology but also to proceed with graduate studies, this timely action finally set the Department on its feet as one capable of offering graduate as well as undergraduate instruction.

With the addition of G. E. Ball, taxonomist, from Cornell, Alabama, and Cornell on Strickland's retirement in 1954 and of W. G. Evans, ecologist and toxicologist, also from Cornell in 1958 it became possible to offer a full range of courses to the graduate level and to attract graduate students from many lands in many branches of Entomology. At the same time the Department required

students to take courses in Botany and Zoology before registering in Entomology, thus reducing the enrolments of first year students. The addition of Janet Sharplin (née Petersen), morphologist from London, to the staff in 1961 permitted this important branch of the subject to receive its proper emphasis. A stable supporting staff was built up with the appointment of Joan Shore (University of British Columbia) in 1954, Alise Zalums (University of Riga) in 1958, and Gisele Buerger (Berlin) in 1964. It is difficult to estimate the importance of these people to the Department; their small size and numbers is more than offset by their loyalty and versatility.

Accommodation

For the summer of 1922, the Department was assigned a small, approximately 8' x 10', room at the west end of M250, but by the time the term started it was transferred to M166, a comfortably large office with a small "collection room" extending south to about half-way to the front of the building.

In about 1925, M166 was needed by the Medical Faculty but it had been observed that M250, supposedly a medical faculty common room, had never been occupied. The Department obtained "temporary" use of this and thus acquired two small offices and a laboratory which, when fitted with benches, accommodated about 18 students. Prior to this year, all laboratory periods had been held in the main Zoology laboratory through the courtesy of Dr. Rowan.

M250 was occupied until 1947 when shortly after the appointment of Hocking, it was obvious that accommodation was entirely inadequate. Fortunately, a complete reorganization of the medical building in this year enabled the Department to move to a quarters at the east end, comprising a laboratory seating about 36 students in addition to a small second laboratory, offices and storage rooms.

Early hopes that the Department would be housed in the new Agriculture Building, the site for which was shown to Strickland before he came here in 1922, were foiled by the reduced size of the building. The Department had to remain at the east end of the Medical Building until a second and larger half was built on to the Agriculture Building to house the biological sciences, botany, entomology, and zoology, and geology. This was occupied in September 1958 and although the space provided, 7,400 square feet, was substantially less than that requested, it was about three times that previously occupied. This permitted the insect collections

to be all housed together, with space for graduate students in the same room, and eliminated the necessity for attempting physiological work with insects in the same room as studies with insecticides, by providing separate specialized rooms for each of these fields. A small insect culture room and workshop facilities were further new amenities.

To this nucleus it was necessary to add basement laboratory and office space for graduate students in 1961, greenhouse space and further teaching laboratory space in the West Laboratory in 1962, and space for graduate student offices in a house in Garneau in 1963. With between 15 and 20 graduate students this still leaves us crowded. But there is always room outdoors.

Field work has always played a part in the Department's activities, both the mobile type in systematic and zoogeographical studies and the more stationary studies in ecology and general biology. We regard the world as sufficient accommodation for the former, at least for the present; the latter has been more difficult. Use has been made of Defence Research Board, Department of Agriculture and Department of Transport sites, especially in northern Canada. Short term studies have been conducted at Flatbush, 100 miles north of Edmonton for some years through the courtesy of Mr. Neil Hughes. In 1964 the Department acquired a section of virgin land on George Lake, 40 miles northwest of the campus, for its own long-term use. This is a most promising asset for the future.

Equipment

While many advances in science have been accomplished with string and sealing wax, one is always left wondering whether the advances might not have been greater or come sooner had more appropriate equipment been available. In any event, in assessing the abilities of graduate students they should have access to equipment equivalent to that which they will have to use later in life.

Upon the organization of the Department in 1922 a moderately comprehensive requisition for laboratory and research equipment was prepared. From this, only office furniture, 4 student binoculars, 6 desk magnifiers, a student microscope and a supply of collecting and preserving materials were authorized. Permission was, however, granted for two cabinets, one for a reference collection and one for a working collection, to be constructed in the University workshops. In subsequent years, the former was enlarged by 15 drawers and the latter increased to three in order to accommodate the rapidly expanding collections,

When, in 1925, funds became available from the National Research Council for studies into the bionomics of wireworms, a small insectary was erected behind the University residences. Two incubators were constructed and were located in the medical building basement.

Little more had been obtained, due to a series of droughts in the late 20's, before the depression of the 30's struck, and all thoughts of further equipping had to be postponed. However, by 1939, a dozen additional binoculars had been obtained for student use. A series of home-made wall-charts proved to be invaluable in lectures.. The great influx of students at the end of the war enabled this Department to increase laboratory and research equipment.

Library

In 1922, the total library facilities in Entomology consisted of two copies of a book prepared for high-school students. The annual grant for additions was less than \$20.00 a year. However, Strickland already possessed fairly complete sets of most of the standard American and Canadian Journals and, while in Washington, he had been given permission to take copies of every U.S.D.A. publication of which there were more than five copies on the reference shelves. He was, also, on the mailing list of many State Experiment Stations the majority of which were, unfortunately, closed at the time of the depression. Together, these supplied a working basis for economic literature. Since the Departmental library grant did not include subscriptions to current journals, the librarian generously subscribed to several of entomological importance from the general library appropriation. In 1924, a special grant of \$300.00 enabled the library to obtain the complete issues of the Transactions of the American Entomological Society. In the meantime the acquisition of a large number of separates from authors supplied a fairly adequate access to the taxonomic literature of the continent.

Curtailment of funds during the 30's hampered the acquisition of an effective collection of library books until after the war.

Insect Collection

From the first, it was considered that little progress could be made until the University possessed a good working, and an authoritatively determined reference, collection of the local fauna. Up till 1939, therefore, every effort was made to add yearly to this and to induce specialists to assist us in its determination.

By 1953, the card catalogue of species known to occur in Alberta contained about 8,750 entries, of which over $\frac{3}{4}$ are represented in the reference collection.

Special thanks are due to Mr. K. Bowman for his great assistance in supplying material and in determining Lepidoptera and to Mr. F.S. Carr for similar help with Coleoptera. The life-long collection of the latter was most generously donated to the University by his widow in 1939. In addition, Mr. D. Mackie gave us his fine collection of locally collected Lepidoptera when he retired to the coast in 1945. Since these collectors had made available extensive information regarding the Lepidoptera and Coleoptera of this province this Department specialized particularly upon Diptera, Hemiptera, particularly Homoptera, and Hymenoptera, particularly Ichneumonoidea. The most seriously neglected groups are the Thysanoptera and Formicoidea.

The purchase of the Bowman collection after his death and the efforts of G.E. Ball and his associates have swelled the collection to a total now of 600 1'6" x 1'6" drawers.

Field and Laboratory Research

Organization of a grasshopper campaign has already been discussed. In 1923 rather intensive studies upon the wheat-stem sawfly were begun at Consort. They were continued for two years, by which time the Dominion Entomological Laboratory staff at Lethbridge was finally convinced that this constituted a major problem for the province. Our experiments had proved conclusively that trash mulching immediately after harvest was the most effective means for reducing populations while the only possible advantage arising from the previously recommended practice of deep fall plowing arose from its effect in delaying the development and the emergence of the adults to a time when it might be too late for them to damage the better advanced crops. However, the Lethbridge laboratory was more favourably located and staffed to carry on with this work and the Department relinquished it in 1925 replacing it with a more intensive investigation into the problem of wireworm control. To this end, an annual grant was obtained from the National Research Council which met expenses for equipment, travel, and the services of seasonal student assistance. Data were accumulated and submitted to Ottawa in voluminous annual reports. Little, however, was published except incidentally in bulletins.

By 1939, this project was still incomplete though it had been definitely established that current cultural practices were responsible for most of the severe damage in Alberta and that practical modifications in these held out great promise for reducing it.

Other insects which, from time to time, received special attention were False wireworms (Eleodes spp.), Red-backed cutworms (Euxoa ochrogaster), Army cutworms (Chorizagrotis auxiliaris), Hessian Fly (Phytophaga destructor), Altaswede thrips (Haplothrips leucanthemi), various household pests, and a number of myiasis producing Sarcophagids, particularly Wohlfahrtia vigil.

Since 1946 increasingly diverse research interests have been manifest. Hocking and Sharplin have worked on aspects of insect flight, on various groups of blood-sucking flies, their importance and control, on ants and on various morphological problems. Ball has pursued the taxonomic, evolutionary and zoogeographical relationships of ground beetles and some other insects all over North America and beyond its limits. Evans has elucidated the function of hitherto obscure sense organs on buprestid beetles and related this to their ability to detect forest fires from a distance. As post-doctoral fellows for short periods in the Department, A. A. El Moursy worked out the systematics of byrrhid beetles, H. Salama studied behavioural aspects of feeding by blood-sucking insects, and D.A. Hughes is studying the functional morphology of the mouthparts in the larvae of Simulium. Projects undertaken by graduate students are given in an appendix. Some research contributions have also been made by undergraduate students of whom about 70 have specialized in entomology and gone on to careers in this field in many areas overseas.

List of Graduate Students in the
DEPARTMENT OF ENTOMOLOGY
Their Degrees and Titles of Their Theses

<u>NAME</u>	<u>DEGREE</u>	<u>TITLE</u>
1925 Hearle, E.	M. Sc.	Mosquitoes of the Lower Frazer Valley, B. C.
1937 Morrison, F. O.	M. Sc.	The Life History and Control of Wireworms (larval forms of Elaterid beetle, especially of <u>Ludius aeripennis destructor</u>).
1942 Brown, J. H.	M. Sc.	Insects and other Arthropods in Relation to Public Health in Alberta.
1945 Davidson, T. R.	M. Sc.	Potato Leaf Roll and its Insect Vectors in the Edmonton District.
1949 Hocking, B.	M. Sc.	Some Aspects of the Biting Fly Problem in Canadian Sub Arctic Regions.
Holmes, N. D.	M. Sc.	A Preliminary Study of Food Relations of Wheat Stem Sawfly (<u>Cephus cinctus</u> Norton) Larvae.
1951 Harper, A. M.	M. Sc.	The Sugar Beet Root Aphis <u>Pemphigus betae</u> Doane in Southern Alberta.
Miller, L. A.	M. Sc.	Bionomics and Control of Some Northern Species of Tabanidae.
1952 Lindsay, I. S.	M. Sc.	Some Effects of Temperature on the Rate of Incubation of Eggs of the Pale Western Cutworm (<u>Agrotis orthogonia</u> Morr.).

1953	Lilly, C.E.	M.Sc.	Bionomics and Control of the Superb Plant Bug, <u>Adelphocoris superbus</u> (Uhl.) (Miridae) in Southern Alberta.
1954	Blakeley, P.E.	M.Sc.	Certain Aspects of the Ecology and Behavior of Prepupae, pupae and Adults of the Pale Western Cutworm, <u>Agrotis orthogonia</u> Morr.
1956	Depner, K.R.	M.Sc.	Reproduction and Development of the Horn Fly, <u>Siphona irritans</u> (L.) (Diptera : Muscidae).
1958	Shemanchuk, J.A.	M.Sc.	On the Bionomics of Mosquitoes in Irrigated Areas of Alberta.
1959	Klassen, W.	M.Sc.	The Influence of the North Saskatchewan River Valley on the Dispersion of <u>Aedes</u> .
	Matsumura, F.	M.Sc.	The Permeability of Insect Cuticle.
1961	Ewen, A.B.	Ph.D.	Studies on Neurosecretion in the Alfalfa Plant Bug, <u>Adelphocoris lineolatus</u> (Goeze) (Hemiptera : Miridae).
	Shamsuddin, M.	Ph.D.	A Study of the Behaviour of Larval Tabanids (Diptera : Tabanidae) in Relation to Light, Moisture, and Temperature.
1962	Cerezke, H.	M.Sc.	The Morphology and Functions of the Reproductive Systems of the Mountain Pine Beetle, <u>Dendroctonus monticolae</u> Hopk. (Coleoptera : Scolytidae).
	Madge, R.B.	Ph.D.	A Revision of the Genus <u>Lebia</u> Latreille in America North of Mexico (Coleoptera : Carabidae).

1962

McFadden, M. W.	Ph.D.	A Taxonomic Study of the Soldier Fly Larvae Occurring in America North of Mexico (Diptera : Stratiomyidae).
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1963

Happold, D. C. D.	Ph.D.	Studies on the Ecology of Mosquitoes in Boreal Forest of Alberta.
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Khan, A. A.	Ph.D.	Effects of Repellents on Mosquito Behaviour.
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Mansingh, A.	Ph.D.	Effects of Malathion on Water Content and Metabolism in <u>Blattella germanica</u> (L.).
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Pritchard, G.	Ph.D.	Predation by Dragonflies (Odonata : Anisoptera).
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Pucat, A. M.	M.Sc.	Functional Morphology of the Mouthparts of <u>Aedes aegypti</u> Larvae.
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ACADEMIC STAFF

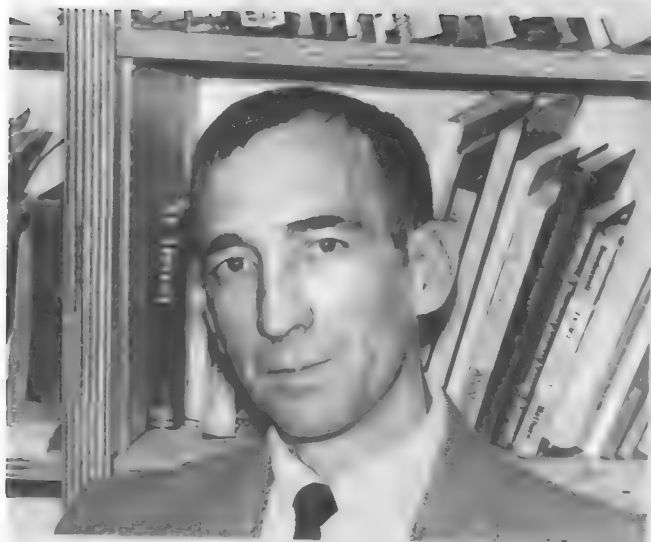


E. H. Strickland
Founder 1923-54



B. Hocking
1946-

George E. Ball
1954-



William G. Evans
1958-



Janet Sharplin
1961-

NON-ACADEMIC STAFF



Joan C. Shore - Secretary



Alise Zalums



Gisele Buerger

Technicians

A HISTORY
OF THE
DEPARTMENT OF GENETICS

—
to 1965
—

by

C. O. Person and L. P. V. Johnson

DEPARTMENT OF GENETICS

The early development of genetics at the University has been included under the Department of Plant Science. The first emphasis to genetic instruction and research came with the appointment of Dr. James R. Fryer in 1920. The second came in 1944 with the internal partitioning of the new Department of Plant Science (an amalgamation of the Departments of Field Crops and Horticulture). A Division of Genetics and Plant Breeding was created, and Dr. Fryer was its nominal Head. Upon his retirement in 1949 he was succeeded by Dr. L.P.V. Johnson.

When Dr. John Unrau, an energetic geneticist, was made Head of the Department of Plant Science in 1952, he saw to it that genetics would have a new impetus. This period of vigorous leadership saw the institution of an active program in graduate studies, and the establishment of long-term projects in genetic research. The first Ph.D. degree to be awarded by the University was conferred on the basis of genetic research, carried out in the Department of Plant Science under Professor Unrau. It was also during this period that the first Honors Program in Genetics was instituted. Although responsibilities for teaching in the Honors Genetics program were assigned to the Department of Plant Science, the program itself (and its students) were under the administration of the Faculty of Arts and Science, an arrangement that clearly reflected the confidence placed in the genetics staff by the University as a whole.

The present Department of Genetics was founded in 1961. The original members of the new Department included the following professors, all of whom had been previously associated with the Department of Plant Science: L.P.V. Johnson, J. Weijer, W.E. Smith, J. Kuspira, K. Lesins and G.W.R. Walker. Dr. C. Person (Professor Unrau's first Ph.D. student) was appointed chairman and took up his duties in the fall of 1961. Subsequent development of the Department has followed along the lines previously developed by Professor Unrau and his colleagues. The Department continues to provide genetics teaching on a University-wide basis; new courses have been introduced to meet the increasingly specialized needs of students in Agriculture and other faculties.

The members of the Department have continued to place heavy emphasis on fundamental research. Although this kind of research is directed primarily to gaining new scientific information, it is worth mentioning here that one aspect of Dr. Johnson's research project has recently provided Alberta with a new variety of barley (Gateway '63: this is an improvement over the original Gateway, which was produced by Dr. Smith and Dr. Johnson). It is hoped that other projects, notably those of Dr. Lesins (alfalfa) and Dr. Smith (flax), will similarly facilitate the development of improved varieties. The Department has also carried on the tradition of active collaboration with other geneticists who are similarly interested in varietal improvement; and here it may be mentioned that the Department each year assists in the co-operative testing of large numbers of selections and strains of cereal and forage crops.

In its first three years the Department was able to increase its staff by one. Dr. David Suzuki was appointed in 1962 and, after his resignation one year later, was eventually replaced by Dr. David Cameron in the fall of 1964. The science of genetics has changed itself, and all biology, in the last few years. The Department, as the voice of genetics, will be much heard of in the years to come.

A HISTORY
OF THE
DEPARTMENT OF PLANT SCIENCE
UNIVERSITY OF ALBERTA

—
to 1965
—

by
William G. Corns

HISTORY OF THE DEPARTMENT OF PLANT SCIENCE

UNIVERSITY OF ALBERTA

1917 - 1964

Wm. G. Corns, July, 1964

The Department of Plant Science at the University of Alberta began as the Department of Field Husbandry, established in 1917, nine years after the University was founded. Dr. Henry Marshall Tory, the first President of the University, appointed Dean E. A. Howes to begin organizing a Faculty of Agriculture in 1915.

At this time Mr. George Harcourt, as special assistant to Dean Howes, taught Field Husbandry and Horticulture. He remained as Lecturer in Horticulture until his retirement in 1935. Professor G. H. Cutler (B.S.A. Toronto), the first head of the department, arrived in Edmonton in July, 1917. His first office was a room in the basement of Pembina Hall before it became a women's residence. Later, with other members of the Agriculture Faculty, he occupied space behind the stage in Convocation Hall before moving to the somewhat more commodious temporary facilities on the west end of the second floor of the "South Lab". In 1920 all departments moved to the west end of the "North Lab", the main centre of the Agriculture Faculty until 1954 when the new Agriculture Building facing Saskatchewan Drive was built.

Dr. Cutler in 1917 proceeded to outline additional course work, and with the assistance of Carl Scholl, '18, made surveys and field plans for the "Saskatchewan Drive", "Campus" and "Investigation" fields for crop research programs. "Freckles", a spirited grey gelding, provided one-horse-power for the buggy and the lorry used for transportation to the three experimental fields. By contrast today the Saskatchewan Drive Field north of the Agriculture and Biological Sciences Building is an automobile parking lot. The Campus Field is now the site of the Students' Union and Physical Education Buildings. The Jubilee Auditorium, Aberhart Hospital and Nurses' Residences are some of the buildings on the former Investigation Field. Departmental field facilities are now located at Parkland Farm, established about 1945 on an acreage west of 113 Street and south of 70 Avenue, and at another University Farm two miles west of Ellerslie, acquired in 1961.

There is also a Horticultural Native Fruit Station on Provincial parkland near Rocky Mountain House and a Field Station for Weed Science and Applied Ecology in the Woodbend District north of Devon. The Woodbend quarter-section was a gift from the Imperial Oil Co. in 1959, in response to the writer's efforts to secure a permanent site for work concerning native vegetation control and grassland improvement by chemical and other means.

Freckles, the horse, has long since given way to light-delivery

trucks for increased to-and-fro activity over longer distances.

During the early years of the department, varieties of cereals, grasses, legumes and potatoes were introduced by Professor Cutler and his colleagues, and compared for adaptability and yields. The department was a source of high quality seed of such crops as Red Bobs wheat, Banner and Victory oats, and Altaswede red clover, increased from selected lots of seed, for sale to farmers. The exploratory investigation and assistance for the farmers was of great benefit when many settlers were coming to the uncultivated areas particularly in the northern and western parts of the province. This work was the forerunner of more intensive research in plant breeding, horticulture, plant pathology, agronomy and plant biochemistry which has progressed over the years and has led to better varieties of grain, vegetables, forage crops, fruits and ornamentals. Howé's Alberta Flint Corn, a strain of Golden Bantam, was popular for a time. "Swallow" timothy was developed. O.A.C. 21 barley was improved and used as a parent in some of the breeding projects. Newal was a barley variety resulting from such work at U. of A. in the early nineteen twenties. Titan was another one developed in the late 30's.

G. B. Sanford (B.S.A. Alberta 1918) was appointed Lecturer in 1918 and assisted Professor Cutler with the barley breeding work, a first in Alberta. Sanford left in 1922 for post-graduate work in Plant Pathology, later joined the Federal Department of Agriculture at Saskatoon and subsequently returned to Edmonton where he was appointed Officer-in-Charge of the Canada Department of Agriculture Laboratory for Plant Pathology on the University Campus. He retired in 1955.

Robert Newton (B.S.A. McGill), later F.R.C.S., F.A.I.C., a World War I veteran, arrived as Assistant Professor of Field Husbandry in 1919 at a time, incidentally, when Edmonton had a population of 60,000. One of his first responsibilities under Professor Cutler was a series of intensive short courses in crops and agronomy for war veterans. He also commenced research on quality of forage crops including sunflowers for ensilage, using wooden barrels as miniature silos. After completion of his Ph. D. degree at the University of Minnesota in 1922, he returned to the University of Alberta and succeeded Professor Cutler as Head of the Department, renamed Field Crops, in 1927. Professor Cutler earned his Ph. D. at the University of Wisconsin before moving on to become Assistant Chief of the Department of Agronomy at Purdue University. He died in 1962.

Dr. Robert Newton arranged the work of the Department of Field Crops into four main areas of study, viz. cereal crop breeding, forage crop breeding, plant pathology and plant biochemistry, with a subsidiary section of field crops experiments covering them all. About this time Cyril Kenway was a departmental general assistant who for many years was responsible for records, photography, laboratory preparation, etc. Later in the 1930's he took the degree course in Agriculture at the University of Alberta. He is now Registrar with the Provincial Department of Lands and Forests.

Mr. J. W. Hopkins Sr. strengthened the department for many years as Secretary and Field Superintendent during Dr. Newton's term of office and afterwards through the years when Drs. Aamodt, Neatby and McCalla were successive Heads of the Department. Still able and alert, although now in his eighties, Mr. Hopkins lives with his son in Ottawa. We are including with the archives a recent letter to us from Mr. Hopkins Sr. It is evidence of his unfailing elegant penmanship expressing recollections clearly and concisely.

Dr. Newton and his graduate students did outstanding pioneering work on crop production, frost and drought resistance, and wheat quality. He originated what became the well known terms "bound water", "fatuid", and "pesticide". Some of Dr. Newton's post-graduate students who made their mark are: Dr. J. A. Anderson, F.R.S.C., long-time Chief Chemist of the Board of Grain Commissioners, and now Director General of Research for the Canada Department of Agriculture; Dr. W. H. Cook, F.R.S.C., Director, Division of Applied Biology, National Research Council, Ottawa; Dr. J. W. Hopkins Jr., F.R.S.C., Head of Biometrics Section, National Research Council, Ottawa; Dr. J. G. Malloch, Chief, National Research Council Scientific Liaison Officer in Europe; Dr. A. G. McCalla, F.R.S.C., F.A.I.C., Dean of the Faculty of Graduate Studies, University of Alberta. There have, of course, been outstanding graduates in various fields of plant science since those early ones. There also have been a number of memorable technical assistants and secretaries, but we feel unable to refer to them all in a resumé of this kind. We have, however, enclosed with this review a list of all available names of this department's graduate students, their supervisors, thesis topics and years of graduation from the 1920's onward. Pictures of a few of these men are included in the accompanying old photographs which we have been able to secure.

For a wealth of articles and illustrations concerning the work and development of the department recorded by various staff members throughout the years, readers will be interested in consulting copies of remaining available annual "Press Bulletins" covering the period 1924 - 1960 inclusive which have been bound and included with this outline. Partly because of more frequent coverage of research news items by Mr. Ed. Swindlehurst's 'Science and the Land', a cooperative effort involving the University and the Alberta Department of Agriculture, a decision to discontinue the Plant Science Press Bulletin was made during the fall of 1960. A Faculty of Agriculture Bulletin succeeded it, commencing in 1962. Copies are attached which contain reference to recent organization and work of the Plant Science Department.

Dr. Newton left the University in 1932 when he was appointed Director of the Division of Biology and Agriculture of the National Research Council and returned in 1940 to accept the post of Dean of Agriculture following the death of Dean Howes. In 1941 he was appointed President of the University of Alberta and he held this position until he retired to Vancouver in 1950.

Staff colleagues of Dr. Newton in the Field Crops Department

were Dr. J. R. Fryer, G. F. Buckley, Dr. A. W. Henry and Dr. O. Aamodt. Dr. Fryer joined the department in 1920 and carried on work in Genetics and Plant Breeding until several years after his retirement in 1949.* Dr. Fryer was well known for the development of Ferax alfalfa and Altagold sweet corn. Mr. Buckley was Assistant Professor of Field Husbandry from 1925 to 1927 before going to Brandon, Manitoba. Dr. A. W. Henry, a long-term stalwart plant pathologist who did widely recognized research in soil borne diseases, flax rusts, etc., joined the department in 1927 and retired in 1962 after a successful career. He, no less than other members of the department, influenced the lives and earned the respect of scores of farmers, undergraduate and graduate students, and colleagues at the university and throughout the land. Dr. Henry continues active work on a part-time basis with the Provincial Field Crops Clinic.

Dr. Aamodt was appointed to the Department of Field Crops in 1928. His main research was in cereal breeding. He followed Dr. Newton as Head of the Department in 1932, and resigned in 1935 to head a Plant Science Department at the University of Wisconsin.

Dr. K. W. Neatby, F.R.S.C., F.A.I.C., was then appointed to replace Dr. Aamodt as Head of the Department. One of his main interests was in the development of drought resistant and of rust resistant varieties of grain. In that same year, 1935, Dr. J. S. Shoemaker arrived to be Head of a separate Department of Horticulture. He followed Mr. Harcourt whose period of office and retirement in 1935 have been mentioned earlier. Horticulture was housed in a small brick building behind Athabasca Hall until the move to the Agriculture Building in 1954. Dr. Shoemaker, as one of his main interests, developed a number of new gladioli varieties. He was a prolific writer of horticultural bulletins and books.

In 1941 Dr. Neatby resigned to accept the position of Director of Northwest Line Elevators Farm Service Division at Winnipeg. Later he went to Ottawa as Director of Science Service, a position he held until his death in 1958. The K. W. Neatby Research Building at the Central Experimental Farm was named in honor of this man's contribution to Agriculture.

Dr. A. G. McCalla, a Research Associate in the Field Crops Department after completion of his Ph. D. work at the University of California, was appointed Professor of Field Crops in 1941 and Head of the Department in 1944 after a period as Acting Head. Dr. McCalla's primary research interest was, and still is, basic physical chemistry of cereal proteins, and factors affecting grain quality for milling and baking. He taught a course on principles of crop production and a course in biometrics, stressing field crops experimentation. In 1944 the Department of Horticulture was merged with the Department of Field Crops to inaugurate the Department of Plant Science with component divisions.

In 1946 Dr. R. J. Hilton (B. Sc. Macdonald, Ph. D. London) was appointed as Associate Professor of Horticulture to replace

*Dr. Fryer died February 15, 1965.

Dr. Shoemaker who moved to accept the headship of the Horticulture Department at Ontario Agricultural College at Guelph. Among his various interests, Dr. Hilton with W. D. Evans, cooperated at Edmonton in the Prairie Fruit Tree Breeding Project supported by the Canada Department of Agriculture and established the Native Fruit Station at Rocky Mountain House.

Also in 1946, Dr. William G. Corns was appointed Assistant Professor of Plant Science to help with instruction of the large classes of World War II veterans. He had completed the B. Sc. in Agriculture at the University of Alberta, and the M. Sc. in Crop Biochemistry under Dr. McCalla in 1944 before going to the University of Toronto. There he completed a Ph. D. program involving a continued National Research Council Wartime Research Project dealing with plant materials for production of rubber. Back again at the University of Alberta, he was made responsible for development of course work and research in crop ecology with emphasis on applied plant growth regulators and weed control. The year 1946 saw the beginning of the tremendous interest in agricultural development of selective herbicides arising out of the wartime discovery in U.S.A. and in England of the herbicidal properties of 2,4-D and MCPA.

Another man who joined the staff in 1946 was Dr. P. F. Knowles (B. Sc. Saskatchewan, Ph. D. California). He was appointed as Assistant Professor of Genetics and Plant Breeding, filling a vacancy left by Dr. W. Boyes (M. Sc. Saskatchewan, Ph. D. Wisconsin) who was on the staff from 1940 to 1942 and is now at McGill University. W. E. Smith (M. Sc. Alberta) was appointed Field Superintendent in 1947, and Assistant Professor of Field Crops, specializing in forage crops, in 1948. J. E. Fitzsimmons (M. Sc. Alberta) was then appointed Field Superintendent. Professor Smith later worked for a Ph. D. degree in flax genetics at the University of Nebraska and is now Associate Professor of Genetics. Another appointment in 1948 was that of R. H. Knowles (B. Sc. Ontario Agricultural College, M. Sc. Alberta) as Assistant Professor of Horticulture. He is now Associate Professor and also Superintendent of Grounds. After about a year and a half at the University of Alberta, Dr. P. F. Knowles resigned to accept a position at the University of California and subsequently in 1948, Dr. L. P. V. Johnson (M. Sc. Alberta, Ph. D. Washington State) was appointed as Associate Professor of Genetics and Plant Breeding. He is now Professor of Genetics with major interest in barley improvement and population genetics. His work contributed to the development of the barley variety Gateway. After Dr. Johnson joined the staff, Dr. John Unrau (B.S.A. Saskatchewan, Ph. D. Washington State) was appointed Assistant Professor in Genetics and Plant Breeding in 1949.

After the death of Dean Robert Sinclair, Dr. McCalla was appointed Dean of Agriculture in 1951 and in 1959 moved up to become Dean of the Faculty of Graduate Studies. He still maintains an active research interest with his own graduate students in Plant Science.

In 1951 Dr. John Unrau followed Dr. McCalla as Head of the Department of Plant Science. He and his students concentrated on basic

cytogenetical studies and also the development of Kenhi soft spring wheat. During this period Dr. Saul Zalik (M. Sc. Manitoba, Ph. D. Purdue) was appointed as Assistant Professor of Plant Physiology and Biochemistry in 1952 and was promoted to Professor in 1964. In addition to teaching Biometrics, he has undertaken responsibility for research and course work in Plant Morphogenesis, and for some of the work on quality of grain and of oil seeds.

Dr. Hilton resigned in 1956 to accept the position of Head of the Department of Horticulture at the Ontario Agricultural College, Guelph. Dr. Jan Weijer, from Holland, was appointed to replace him in 1957 but in 1959 transferred to the field of Genetics and Radiation Biology. Dr. W. T. Andrew (B. Sc. Alberta, M. Sc. Utah State, Ph. D. Michigan), a vegetable specialist, was then appointed as Associate Professor of Horticulture in the fall of 1959. Dr. W. P. Skoropad (B. Sc. Alberta, 1950; Ph. D. Wisconsin) also joined the Department as Assistant Professor of Plant Pathology in 1959 and is now Associate Professor in charge of the Division of Plant Pathology since Dr. Henry's retirement.

Dr. Unrau died suddenly in March 1961, while making preparations to leave to accept a position at McMaster University. Later in that year Genetics was organized under Dr. C. O. Person (a former graduate student of Dr. Unrau and the University of Alberta's first Ph. D. graduate) as a Department distinct from the Department of Plant Science. Dr. W. G. Corns was appointed Head of the reorganized Plant Science Department after a few months as Acting Head of the old organization during its transition period.

Dr. W. H. Vanden Born (M. Sc. Alberta, Ph. D. Toronto) was appointed Assistant Professor of Crop Ecology in 1961 and Drs. E. W. Toop (B. Sc., B. C., Ph. D. Ohio) and N. Colotelo (B. Sc. Ontario Agricultural College, Ph. D. Saskatchewan) joined the Department as Assistant Professors of Horticulture (Floriculture) and of Plant Pathology respectively, in 1962. During the same year the staff was further strengthened by the transfer of Dr. Mary Spencer (B. A. Saskatchewan, M. A. Bryn Mawr, Ph. D. California) from Biochemistry to be jointly Associate Professor of Plant Biochemistry in the Department of Plant Science (Professor 1964). Also in 1962 Dr. L. E. Tyner (B. Sc. Alberta, Ph. D.), Officer in-Charge of the Federal Laboratory of Plant Pathology became an Associate in the Department of Plant Science when the federal laboratory was closed.

At the present time there are twenty-one graduate students taking M. Sc. and Ph. D. programs in the four divisions of the department: Horticulture, Plant Pathology, Plant Physiology and Biochemistry, Weed Science and Crop Ecology. Once again there is need for expansion of building facilities to meet current and foreseeable needs of Agriculture in a continuously developing economy.

Acknowledgements

Main sources of information used in the preparation of this summary are:

"History of the Faculty of Agriculture, University of Alberta, 1915 - 1962" by Dr. J. D. Newton. Agriculture Bulletin, U. of A., Vol. 1, April, 1962.

"Notes on the Early Days of the Department of Field Husbandry 1917 - 1924" by G. B. Sanford (typescript 1961).

"Minutes of department meetings 1921 - present" and files of theses. Department of Plant Science, U. of A.

"Memoirs of Robert Newton" by Robert Newton, 1964.

"The Press Bulletin 1924 - 1960" - attached.

In addition, the writer has drawn on some personal recollections and has used additional pictorial material whose donors are noted with the captions. Dr. A. G. McCalla kindly read the manuscript and provided clarification of some of the chronology.

PLANT SCIENCE

Year	Student's Name	Professor's Name	Title	Degree
1923	Wilfred Robinson	Dr. J. R. Fryer	Studies on the Genus Agropyron	M. Sc.
1926	Jos. Ficht	Dr. R. Newton	Timothy Hulling Studies	M. Sc.
1927	Alfred E. Clarke	Dr. J. R. Fryer	Spermatogenesis and Related Phenomena in Alfalfa	M. Sc.
1927	Downs H. Thomas	Dr. J. R. Fryer	Inheritance in Wheat	M. Sc.
1927	J. V. Lehmann	Dr. R. Newton	Studies on the Nature of Resistance in Wheat to Stem Rust	M. Sc.
1927	E. Clifford Stacey	Dr. J. R. Fryer	Ecological Studies on the Native Grasses of the Grande Prairie-Beaverlodge District	M. Sc.
1928	Asael E. Palmer	(?) Dr. R. Newton	Use of Water for Various Farm Crops Under Different Systems of Irrigation	M. Sc.
1928	Wm. H. Cook	Dr. R. Newton	The Bound Water of Wheat-Flour Suspensions in Relation to Baking Strength	M. Sc.
1928	George E. DeLong	Dr. J. R. Fryer	A Study of Variations of Marquis Wheat in Relation to Different Spacing of Plants	M. Sc.
1928	Cyril W. Leggatt	Dr. R. Newton	Catalase Activity as a Measure of Seed Viability	M. Sc.
1928	James Mackintosh Manson	Dr. R. Newton	Border Competition in Field Crop Experiments	M. Sc.
1928	John A. Anderson	Dr. R. Newton	Phenolic Compounds of the Wheat Plant in Relation to Rust Resistance	M. Sc.

Year	Student's Name	Professor's Name	Title	Degree
1930	John N. Welsh	Dr. O. S. Aamodt	Studies on the Inheritance of Glume Color and Reaction to Stem Rust and Smuts in Oats	M. Sc.
1930	Roland S. Young	Dr. R. Newton	The Effect of Crop Sequence and Association on the Yield and Quality of Wheat	M. Sc.
1930	W. R. Foster	Dr. A. W. Henry	Overwintering of Certain Wheat Pathogenes	M. Sc.
1930	J. W. Hopkins	Dr. R. Newton	Gluten Quality and the Effect of Dilution of Wheat Flours with Starch	M. Sc.
1930	Frank H. Peto	Dr. J. R. Fryer	Studies on the Genus <u>Agropyron</u>	M. Sc.
1931	Arthur G. McCalla	Dr. R. Newton	Composition of Wheat in Relation to Stage of Maturity and Exposure to Frost	M. Sc.
1931	Thomas Kilduff	Dr. O. S. Aamodt	Inheritance of Resistance to Smut and of Some Plant Characters in Wheat	M. Sc.
1932	Shirley G. Preston	Dr. J. R. Fryer	Ecological Studies on the <u>Agropyron</u> in Alberta	M. Sc.
1932	Eric G. Sharvelle	Dr. A. W. Henry	Studies on the Parasitism of <u>Cercospora</u> <u>Nesliae</u> Bisby and Dearness	M. Sc.
1932	Fred R. Davies	Dr. A. W. Henry	Studies on the Saprophytism of Certain Fungi Causing Foot-Rots of Wheat	M. Sc.
1932	Robert G. Dunlop	Dr. J. G. Malloch	Studies on Gas Production and Retention in Wheat Flour Doughs	M. Sc.

Year	Student's Name	Professor's Name	Title	Degree
1933	Geoffrey W. Padwick	Dr. A. W. Henry	The Relation of Certain Weeds and Grasses to the Development of Cereal Foot-Rotting Pathogenes in the Soil	M. Sc.
1933	Lawrence E. Tyner	Dr. A. W. Henry	Microchemical Studies on Wheat Seedlings in Relation to Their Reaction to Foot-Rot Pathogenes	M. Sc.
1933	W. H. Johnston	Dr. O. S. Aamodt	Inheritance of Smooth Awn and Disease Reaction in Barley Crosses	M. Sc.
1933	L. P. V. Johnson	Dr. O. S. Aamodt	Studies on the Inheritance of Smut Reaction, Lemma Color, Awn Development and Rachilla Pubescence in Oats	M. Sc.
1934	Robert C. Rose	Dr. W. H. Cook	Studies on the Gluten Proteins	M. Sc.
1934	George Semenjuk	Dr. A. W. Henry	Studies on the Influence of Soil Composition on the Growth and Nutrition of Certain Fungi-Causing Foot and Root-Rots of Wheat	M. Sc.
1934	Walter Charles Stone	Dr. J. R. Fryer	A Botanical Study of Pasture Mixtures	M. Sc.
1934	James H. Torrie	Dr. O. S. Aamodt	Studies on the Inheritance of, and the Relation Between Certain Physiologic and Morphologic Characters in Several Wheat Crosses	M. Sc.
1935	Joseph B. Skaptason	Dr. A. W. Henry	Studies on Seed Injury in Cereals Resulting from Seed Treatment	M. Sc.
1935	Donald Cameron	Dr. O. S. Aamodt	Harvesting Methods in Relation to Quality in Wheat	M. Sc.

Year	Student's Name	Professor's Name	Title	Degree
1936	Edwin K. Woodford	Dr. A. G. McCalla	The Absorption and Translocation of Nutrients by the Wheat Plant	M. Sc.
1936	James L. Bolton	Dr. J. R. Fryer	A Study of the Causes of Sterility in <u>Medicago Sativa</u> L. (Alfalfa) in Relation to Seed-Setting	M. Sc.
1936	Arnold W. Platt	Dr. O. S. Aamodt	The Reaction of Certain Cereals to Freezing Temperatures	M. Sc.
1936	Alexander T. Sinclair	Dr. A. G. McCalla	Changes on Chemical and Physical Properties of Flour from Wheat Grown on the Black and Gray Soil of Alberta	M. Sc.
1937	Howard B. Peto	Dr. K. W. Neatby	The Measurement of Drought Resistance in Wheat by Field and Laboratory Methods	M. Sc.
1937	Patrick Garrow	Dr. A. W. Henry	Studies on the Responses of Pea Varieties to Chemical Treatment of the Seed	M. Sc.
1938	William Semeniuk	Dr. K. W. Neatby	The Effect of Frost in the Early Dough Stage on the Morphology of Barley Kernels	M. Sc.
1938	Elvins Y. Spencer	Dr. A. G. McCalla	Physiologic Specialization in <u>Ustilago Hordei</u> and the Genetic Relationship between Resistance to <u>U. Hordei</u> and <u>U. Nuda</u>	M. Sc.
1938	Hazara S. Garcha	Dr. K. W. Neatby	Fractional Solubility of Gluten in Sodium Salicylate Solutions and Physical-Chemical Properties of the Lipoid-Protein Complex	M. Sc.
			The Use of Phytohormones in Facilitating the Clonal Propagation of Alfalfa, Wheat and Oats.	M. Sc.

Year	Student's Name	Professor's Name	Title	Degree
1938	Norman G. Lewis	Dr. K. W. Neatby	The Nature and Causes of Inviability and Delayed Germination in Seed Oats	M. Sc.
1938	John R. Weir	Dr. K. W. Neatby	I. Growth Rates of Wheat, Maize and <i>Gladiolus</i> in Relation to Light and Temperature II. An Investigation of Methods for the measurement of Frost Resistance in Spring Wheat	M. Sc.
1939	Ralph A. Ludwig	Dr. A. W. Henry	Studies on the Microbiology of Sterilized Soil in Relation to its Infestation with Plant Pathogens	M. Sc.
1939	Stanley B. Clay	Dr. A. W. Henry	Studies on a Fungus "Die-Back" Disease of the Mountain Ash.	M. Sc.
1940	John J. Parker	Dr. J. R. Fryer	Studies Relating to Fertility in Alfalfa (<i>Medicago Sativa</i> L.)	M. Sc.
1940	James D. McCaig	Dr. A. G. McCalla	Physico-Chemical Changes in Gluten Accompanying Aging	M. Sc.
1940	John J. P. Sexsmith	Dr. J. R. Fryer	Studies Relating to Fertility in Alfalfa (<i>Medicago Sativa</i> L.)	M. Sc.
1940	John E. Birdsall	Dr. K. W. Neatby	The Size and Frequency of Stomata in Relation to Drought Resistance in Wheat	M. Sc.
1941	Dyson Rose	Dr. A. G. McCalla	The Effects of Limiting Ions on the Absorption of Nutrients by Wheat	M. Sc.
1941	Jack G. Grimble	Dr. A. W. Henry	Studies on the Chemical Seed Treatment of Grasses	M. Sc.

Year	Student's Name	Professor's Name	Title	Degree
1942	Frank H. White	Dr. J. R. Fryer	The Effect of Commercial Fertilizers on Alfalfa (<u>Medicago Sativa</u> L.) Seed Production on the Gray Wooded Soils of Alberta	M. Sc.
1942	James G. Ross	Dr. J. W. Boyes	The Production of Tetraploid Redwing Flax and Tetraploid F ₁ Hybrids of a Number of Crosses Involving this Variety	M. Sc.
1943	S. Goto	Dr. A. W. Henry	Studies on Halo Blight, a Bacterial Disease of Oats	M. Sc.
1943	A. Lorne Shewfelt	Dr. A. G. McCalla	A Report of the Production of 2,3-Butylene Glycol from Wheat and Wheat Starch	M. Sc.
1943	Douglas K. Taylor	Dr. A. G. McCalla	A Study of Parental Lines and Bulk Progenies from Single and Compound Crosses in Wheat and Barley	M. Sc.
1943	James G. Darroch	Dr. J. W. Boyes and Dr. A. G. McCalla	The Interrelationships of Grain Yield, Stomatal Length, and Soil Drought in Wheat Varieties	M. Sc.
1944	Francis L. Rigby	Dr. A. G. McCalla	The Effects of Sulphur on the Quality of Wheat	M. Sc.
1944	John W. Hall	Dr. A. G. McCalla	The Effects of Ammonium Phosphate and Boron on Alfalfa (<u>Medicago Sativa</u> L.) Seed Production and Vegetative Growth	M. Sc.
1944	William G. Corns	Dr. A. G. McCalla	The Quantitative Estimation of 2,3-Butylene Glycol, Acetylmethylcarbinol and Certain Other Substances in the Fermentation of Grain, with Some Comparative Results	M. Sc.

Year	Student's Name	Professor's Name	Title	Degree
1944	Albert W. Jackson	Dr. A. W. Henry	Studies on the Production of 2,3-Butylene Glycol from Wheat by <u>Aerobacillus Polymyxa</u>	M. Sc.
1944	B. Charles Jenkins	Dr. J. W. Boyes and Dr. A. G. McCalla	The Relations of Stomatal Size and Generation to the Yielding Ability of Bulkcd Wheat Hybrids	M. Sc.
1945	J. Kastelic	Dr. A. G. McCalla	Seasonal Drift in Carbohydrate Concentrations in Growing Barley	M. Sc.
1945	William E. Brown	Dr. A. G. McCalla	The Basic Amino Acid Content of Some Plant Proteins	M. Sc.
1946	L. R. Wetter	Dr. A. G. McCalla	Preliminary Studies on the Electrophoretic Properties of Plant Proteins	M. Sc.
1946	C. O. Gerbrandt	Dr. A. G. McCalla	The Distribution of Sulphur in Wheat	M. Sc.
1946	N. F. Putnam	Dr. A. G. McCalla	Apparent Instability in Titan Barley	M. Sc.
1946	M. N. Grant	Dr. A. G. McCalla	Interrelation of Yield and Protein Content of Random Selections from Single Crosses in Wheat and Barley	M. Sc.
1947	A. A. Guitard	Dr. P. F. Knowles	The Effects of Spacing on the Yield-Protein Relationship of Wheat and Barley	M. Sc.
1947	J. J. Goodman	Dr. A. W. Henry	On the Value of an Antibiotic Substance of Bacterial Origin in the Treatment of Seed.	M. Sc.
1947	Kenneth W. Hill	Dr. P. F. Knowles	The Yielding Capacity of Colchicine-Induced Polyploid Sugar Beets	M. Sc.
1947	Warren E. Smith	Dr. J. R. Fryer	Methods of Measuring Growth Rate in Alfalfa	M. Sc.

Year	Student's Name	Professor's Name	Title	Degree
1947	H. T. Allen	Dr. R. J. Hilton	Germination Requirements of Seeds of Trees and Shrubs	M. Sc.
1947	A. E. Harper	Dr. A. G. McCalla	Soft White Spring Wheat as an Alberta Cereal Crop	M. Sc.
1948	J. R. Colvin	Dr. A. G. McCalla	Electrophoretic and Diffusion Studies on Gluten	M. Sc.
1948	Robert Kasting	Dr. A. G. McCalla	The Sulphur-Containing Amino Acids of Wheat Proteins	M. Sc.
1948	D. S. McBean	Dr. A. G. McCalla	Differential Feeding on Barley Varieties by Grasshoppers	M. Sc.
1948	J. D. Gilpatrick	Dr. A. W. Henry	Factors Affecting the Fruiting of <u>Ophiobolus Graminis</u> Sacc.	M. Sc.
1950	Stephen G. Fushley	Dr. A. W. Henry	Factors Influencing Infection of Cereals by the Ergot Fungus	M. Sc.
1950	Ib. L. Nonnecke	Dr. R. J. Hilton	The Effect of Nitrogen Phosphorus and Potassium on Certain Vegetable Crops in Southern Alberta	M. Sc.
1950	Wallace J. Pigden	Dr. A. G. McCalla	A Comparison of the Nutritional Value of Native and Introduced Grasses for Winter Pasture	M. Sc.
1950	Aston R. Taylor	Dr. L. P. V. Johnson	Morphological, Physiological and Genetical Studies of Earliness in Cereal Crops	M. Sc.
1951	Clarence R. Fuerst	Dr. A. G. McCalla	Physical and Chemical Properties of Plant Proteins	M. Sc.

Year	Student's Name	Professor's Name	Title	Degree
1951	Paul Melnychyn	Dr. A. G. McGalla	Preliminary Investigations on Oat Protein, Using Physico-Chemical Methods	M. Sc.
1951	George S. Cooper	Dr. W. G. Corns	General and Physiological Effects of Cyanamid Products and Petroleum Oils as Herbicides or as Pre-Harvest Top-Killers for Legumes	M. Sc.
1951	Richard B. Frankish	Dr. W. G. Corns	Some Effects of Various Chemical Treatments on Legumes and Certain Other Crops	M. Sc.
1951	Robert L. Pharis	Dr. John Unrau	Seed Setting of Alfalfa Flowers Tripped by Bees and Mechanical Means	M. Sc.
1951	W. P. Skoropad	Dr. L. P. V. Johnson	Inheritance of Resistance to Loose Smut, <u>Ustilago Nuda</u> , in Barley	M. Sc.
1951	Jack W. Morrison	Dr. John Unrau	The Behavior of the Univalent Chromosomes of Monosomic <u>Triticum Vulgare</u> at Meiosis	M. Sc.
1951	John E. Fitzsimmons	Dr. L. P. V. Johnson	The Production of Mutations in Barley by X-Irradiation	M. Sc.
1951	Robert Cameron McGinnis	Dr. John Unrau	A Study of Meiosis in a Haploid of <u>Triticum Vulgare</u> and its Progenies	M. Sc.
1952	Gilbert I. Paul	Dr. L. P. V. Johnson	Inheritance of Earliness in Barley	M. Sc.
1952	Edward N. Larter	Dr. John Unrau	A Study of the Cytogenetical Effects of 2,4-D on Barley	M. Sc.
1952	George Obolensky	Dr. John Unrau	Pollen Production in Different Lines of Sunflowers and its Relation to Production of Crossed Seed	M. Sc.

Year	Student's Name	Professor's Name	Title	Degree
1952	Donald H. Dabbs	Dr. R. J. Hilton	Methods of Analysis for Solanine in Tubers of <u>Solanum Tuberosum</u>	M. Sc.
1952	Donald A. Shaw	Dr. R. J. Hilton	The Carbohydrate-Nitrogen Relationship in Tomatoes, as Influenced by Sucrose and Urea Foliage Sprays	M. Sc.
1952	R. L. Millar	Dr. A. W. Henry	Variability of <u>Bacillus Subtilis</u> in Relation to Antibiotic Production	M. Sc.
1952	Edwin A. Peterson	Dr. A. W. Henry	Antibiotic Activity of Certain Spore-Forming Bacteria and Other Microorganisms Against Some Plant Pathogenic Fungi in the Soil	M. Sc.
1952	Phillip E. M. Leith	Dr. J. Unrau	Growth of Timothy (<u>Phleum Pratense</u> L.) Seed from Pollination to Maturity and Effect of Degree of Maturity at Harvesting and of Chilling Upon Germination and Seedling Vigour	M. Sc.
1953	M. G. Howat	Dr. R. J. Hilton and Dr. Wm. G. Corns	A Study of the Effects of Maleic Hydrazide on Plant Development and Root Quality of <u>Raphanus Sativus</u> L.	M. Sc.
1953	Clayton Person	Dr. John Unrau	Chromosome Movement in a Haploid of <u>Triticum Aestivum</u> L.	Ph. D.
1954	E. W. B. Ward	Dr. A. W. Henry	Some Effects of Antibiotics on the Sporulation of <u>Helminthosporium Sativum</u> Pammel, King and Bakke	M. Sc.
1955	Ambrose Zitnak	Dr. R. J. Hilton	Factors Influencing the Initiation and Rate of Solanine Synthesis in Tubers of <u>Solanum Tuberosum</u> L.	Ph. D.

Year	Student's Name	Professor's Name	Title	Degree
1955	J. B. Mudd	Dr. S. Zalik	The Effect of Zinc Deficiency on the Metabolism of Indoleacetic Acid in the Tomato Plant	M. Sc.
1955	John Kuspira	Dr. John Unrau	Cytogenetic and Genetic Analyses of Certain Characters in Common Wheat Using Whole Chromosome Substitution Lines	Ph. D.
1956	S. R. Miller	Dr. Wm. G. Corns	Some Effects of Growth Substances on Low Temperature Resistance and Quality of Sugar Beets	M. Sc.
1956	Antony Santiago	Dr. John Unrau	A Cytogenetic Study of Growth Habit, Speltoidy and Awning in a Mutant Induced by 2,4-D in Thatcher Wheat	M. Sc.
1956	James Banting	Dr. Wm. G. Corns	Physiological and Biochemical Studies on Vernalization and Cold Hardiness of Wheat	Ph. D.
1957	David G. Anderson	Dr. A. G. McCalla	Sedimentation and Electrophoretic Characteristics of Crystalline Globulin from Cucurbit Seeds	M. Sc.
1957	J. W. S. Alcorn	Dr. A. W. Henry	The Effect of Antibiotics on the Variability of Some Plant Pathogenic Fungi	M. Sc.
1957	R. H. Knowles	Dr. S. Zalik	Studies on Dormancy of Seeds of the American Highbush Cranberry, <u>Viburnum Trilobum</u> , March	M. Sc.
1957	Lorne F. Ebell	Dr. Wm. G. Corns	Natural Variability and Chemical Control of the Wild Oat (<u>Avena Fatua</u> L.)	Ph. D.

Year	Student's Name	Professor's Name	Title	Degree
1958	Oluf L. Gamborg	Dr. S. Zalik	Biochemical Studies of Lipoxidase in Seeds and Seedlings of Sunflower, <u>Helianthus Annuus</u> (L.)	M. Sc.
1958	Edmund W. Beswick Ward	Dr. A. W. Henry	Comparative Physiology of Saprophytic and Parasitic Fungi Inhabiting Soil	Ph. D.
1958	Kenneth J. Kasha	Dr. G. W. R. Walker	A Study of Linkage and Translocations in Barley	M. Sc.
1958	Emile B. Wagenaar	Dr. L. P. V. Johnson	Cytological Studies of Intergeneric and Interspecific Hybrids within the Grass Tribe Hordeae	Ph. D.
1958	John R. Harle	Dr. L. P. V. Johnson	The Effect of Tetraploidy on Contrasting Characters in <u>Hordeum Vulgare</u> L.	M. Sc.
1958	Stephen F. H. Threlkeld	Dr. John Unrau	Some Studies Concerning Chromosome IX in Hexaploid Wheat, with Particular Reference to its Effect on Growth	M. Sc.
1958	Erich R. Kerber	Dr. John Unrau	A Study of Autotriploids and Trisomics of Common Barley, <u>Hordeum Vulgare</u> L.	Ph. D.
1958	W. H. Vanden Born	Dr. Wm. G. Corns	Studies on Seed Dormancy and Germination, Growth and Development, and Control of Tartary Buckwheat (<u>Fagopyrum Tataricum</u> (L.) Gaertn.)	M. Sc.
1959	Charles R. Elliott	Dr. John Unrau	Effect of Nitrogen Fertilizer Broadcast at Different Dates on an Aging Seed Stand of Creeping Red Fescue	M. Sc.
1959	D. W. Smith	Dr. J. Weijer	Studies of Native Alberta Species of <u>Vaccinium</u>	M. Sc.

Year	Student's Name	Professor's Name	Title	Degree
1959	Sidney H. Pawlowski	Dr. John Unrau	Cytogenetic Investigations of the Fatuoid Complex and Related Factors in Avena	M. Sc.
1959	Herbert D. Madill	Dr. W. E. Smith	The Inheritance of Rust Immunity Occurring in <u>Linum Angustifolium</u> (Huds.)	M. Sc.
1960	Naresh Sharan	Dr. A. W. Henry	Microbial Degradation of the Sclerotia of Two Phytopathogenic Fungi in the Soil	M. Sc.
1960	Robert W. Cromarty	Dr. A. W. Henry	Soil as a Habitat for Some Plant Pathogenic Microorganisms	M. Sc.
1960	L. J. Piening	Dr. A. W. Henry	A Study of the Effects of the Soil Microflora on Root Pathogens in Natural and Amended Soils	M. Sc.
1960	Nestor Rosa	Dr. S. Zalik	Oxidative Phosphorylation by Pea Seedling Mitochondria	M. Sc.
1961	Sirish C. Verma	Dr. A. G. McCalla	The Action of Proteolytic Enzymes on Wheat Gluten	Ph. D.
1962	R. R. Matsuo	Dr. A. G. McCalla	Comparison of Some Physiochemical Properties of Gluten from Hard, Soft and Durum Wheats	Ph. D.
1962	Rueben E. Huber	Dr. S. Zalik	Metabolic Studies on Lipid and Protein in Germinating and Developing Flaxseed, <u>Linum Usitatissimum</u> (L.)	M. Sc.
1962	Allister R. McKenzie	Dr. A. W. Henry	Studies on the Pathogenicity and Competitive Ability of Monosporous and Mycelial Isolates of <u>Ophiobolus Graminis</u> Sacc.	M. Sc.

Year	Student's Name	Professor's Name	Title	Degree
1962	Sally MacLachlan	Dr. S. Zalik	Microscopic and Biochemical Studies on a Chlorophyll Mutant of Gateway Barley	Ph. D.
1964	R. A. Fletcher	Dr. S. Zalik	Photomorphogenetic Effects of Regions in the Visible Spectrum on Certain Plant Species	Ph. D.
1964	Masaru J. Tsujita	Dr. Wm. T. Andrew	Some Effects of N ₆ -Benzyladenine on the Morphology and Post-Harvest Physiology of Radish (<u>Raphanus sativus</u> L.) and Cabbage (<u>Brassica oleracea</u> L. var. <u>capitata</u> L.)	M. Sc.
1964	Donald E. Harder	Dr. W. P. Skoropad	Factors Influencing the Severity of Cereal Anthracnose in Alberta	M. Sc.
1964	R. F. Norris	Dr. Wm. G. Corns	Some Morphological and Physiological Effects of (2-Chloroethyl) Trimethylammonium Chloride (CCC) on Certain Species of the Gramineae	Ph. D.

Plant Science - Some Old Photographs

The Field Husbandry Department was renamed Field Crops in 1927. The Departments of Field Crops and of Horticulture were combined as the Department of Plant Science in 1944. In 1961 a separate Department of Genetics was organized leaving Horticulture, Plant Pathology, Plant Physiology and Biochemistry, and Weed Science and Crop Ecology as the component divisions of the Department of Plant Science.



Outdoor threshing of the 1918 grain plots of the Field Husbandry Department at U. of A. Dick Elvidge, 1914-18 war veteran, pitches the bundles; Duncan Chalmers, plot-man, feeds the thresher; Guthrie Sanford sacks the grain; and Kemper Broadus removes the straw. (Photograph by McDermids, made available with information by Dr. G. B. Sanford, copy by R. Schraa.)



The original Field Crops Barn near the site of the present Aberhart Hospital. The barn was in service for approximately 30 years before it was dismantled in 1949. (Photo from Departmental Album.)



Harvesting "increase plots" of wheat in the old days at the University. (Credit unknown)



Inaugural Meeting of the Canadian Society of Agronomy
1919

Back Row - 1. r.

- | | |
|---------------------|--------------------|
| 1. _____ ? | 5. Harrison, T. J. |
| 2. McLarty, J. E. | 6. Stephens |
| 3. Wiener, W. T. G. | 7. Grisdale |
| 4. Bracken, J. | 8. Taggart |

Second Row - 1. r. staggered

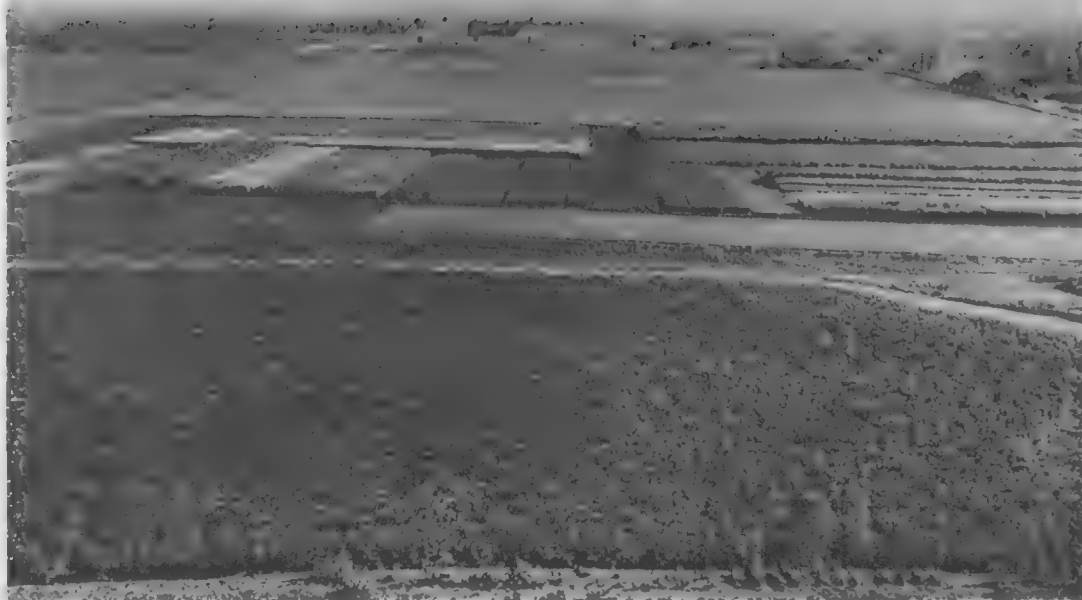
- | | |
|-----------------------|----------------------|
| 9. Harrington, J. B. | 16. Strange, J. |
| 10. _____ ? | 17. McKenzie |
| 11. Rayner, J. | 18. Whiteman, R. |
| * 12. Newton, R. | 19. Fairfield, W. H. |
| 13. Kirk, L. E. | * 20. Wyatt, F. A. |
| * 14. Cutler, G. H. | 21. Vigor, S. H. |
| 15. McKillican, W. C. | 22. Sweet |

Front Row - 1. r.

- | | |
|--------------------|--------------------|
| 23. Booth, J. F. | 28. _____ ? |
| 24. Bridge | 29. Tinline, M. J. |
| 25. Munro | * 30. Henry, A. W. |
| 26. Ellis, J. H. | 31. _____ ? |
| * 27. Fryer, J. R. | |

* U. of A. staff members

(Photo courtesy of Dr. A. W. Henry)
(Copy by R. Schraa)



Looking south across Campus Field from roof of Pembina Hall, 89th Avenue in front of fence in foreground. Road at left later became 114 Street; 87 Avenue had not yet been opened.

(Photo August 11, 1920, by Dr. Robert Newton - copy by R. Schraa.)



Dr. K. W. Neatby - Head of the Field Crops Department 1935 - 1941, in his office in the "North Lab."

(Photo by George Tosh, Technician)



Field Crops Department Staff, U. of A. - 1928

(Photo by H. P. Brown; from collection of R. Newton, copy by R. Schraa)

Front Row - J. G. Malloch, research assistant; Dr. R. Newton, Professor of Field Crops and Plant Biochemistry; Mrs. Mildred McDonnell, secretary; Mrs. Irene Bedford, secretary; Dr. A. W. Henry, Professor of Plant Pathology.

Second Row - Ernie Thompson, lab. assistant; Cyril Kenway, records clerk, photographer, draftsman; J. W. Hopkins Jr., grad. assistant; J. M. Manson, grad. assistant; J. W. Hopkins Sr., Field Superintendent.

Back Row - A. W. Saddington, grad. assistant; A. G. McCalla, grad. assistant; J. A. Anderson, research assistant; W. R. Foster, grad. assistant; W. H. Cook, research assistant; F. H. Peto (behind Cook), grad. assistant; A. G. McMillan, miller and baker.

Prof. J. R. Fryer - absent completing his doctorate at U. of California. Dr. O. S. Aamodt joined the Department later in 1928.



ACADEMIC STAFF OF THE DEPARTMENT OF PLANT SCIENCE 1964

Standing, left to right: Dr. Wm. G. Corns, Head of the Department and Professor of Weed Science and Crop Ecology; Dr. Wm. H. Vanden Born, Assistant Professor of Weed Science and Crop Ecology; Dr. Wm. T. Andrew, Associate Professor of Horticulture; Dr. E. W. Toop, Assistant Professor of Horticulture.

Seated: Dr. Wm. P. Skoropad, Associate Professor of Plant Pathology; Dr. N. Colotelo, Assistant Professor of Plant Pathology; Dr. L. E. Tyner, Plant Pathologist (Canada Department of Agriculture); Dr. Mary S. Spencer, Professor of Plant Biochemistry; Dr. A. G. McCalla, Professor of Plant Biochemistry and Dean of Faculty of Graduate Studies. *(continued on next page)*



Academic Staff of the Department of Plant Science 1964

(Continued from previous page)

Dr. S. Zalik, Professor of Plant Physiology and Biochemistry;

Dr. A. W. Henry, Professor Emeritus (Plant Pathology);

Mr. R. H. Knowles, Associate Professor of Horticulture, and
Superintendent of Grounds.

A HISTORY
OF THE
DEPARTMENT OF SOIL SCIENCE
UNIVERSITY OF ALBERTA

to 1965

by
J. A. Toogood

THE ORIGIN OF THE SOILS DEPARTMENT

Lectures on soils were included in a Department of Biology course in 1913-14, and in a Department of Chemistry course, given by Dr. A.L.F. Lehmann, in 1914-17. The 1917-18 Calendar listed a course entitled "Soils 1", given presumably by Dr. Lehmann. In the 1918-19 Calendar there was actually a Department of Soils listed, with Professor Lehmann listed as its staff, but there was actually no firm beginning of the Department until 1919. This fact is revealed by the following quotations from a number of letters written at that time.

University of Alberta
Edmonton, Mar. 8, 1919

Dr. F. A. Wyatt
Department of Soils
University of Illinois, Urbana

Dear Sir:

Some few days ago I wrote Dean Davenport as to a recommendation of a good man for the Professorship of Soils in our College. He has written me recommending you. I am now writing to ask you if you would consider an offer of the position. I would take it as a favour if you would write me at some length as to your attitude in the matter, your experience and aims in connection with Soil work. It is quite probable in case you would care to consider the matter that I shall visit your institution in order to talk the matter over. I am very anxious to secure the best man possible. ----- I am authorized to offer as an initial salary, \$3,000.00 ----- I might explain that we take only third, fourth and fifth year work of a five year course, consequently, the number of students is comparatively small, but on the other hand they are a picked lot. -----

Sincerely yours,
E. A. Howes,
Dean

Urbana, Mar. 13(?), 1919

Dean E. A. Howes
College of Agriculture
University of Alberta

Dear Sir:

I wish to acknowledge receipt of your recent letter informing me of your intention to create a soils department at your institution. It seems to me that the soils work in your province embraces a very fertile field for development and that the problems would be devoted to systems of dry farming, irrigated farming and some consideration for the question of drainage. The fact that your soil conditions and climatic conditions are materially different from those of this section would necessitate a

somewhat different system of management than is at present in vogue in Illinois. I realize that a new country like Alberta has possibly had no systematic plans for maintaining the fertility of the soils and that you have a real need for the provision of maintaining the productive power of your soils. Due to your comparatively short season of growth excesses of available nitrogen would retard the maturity of crops and prove disastrous but a supply sufficient for maximum production should be kept in the soil. To build up systems of permanent fertility would in the beginning entail considerable institute work in order to create on the part of the farmer an understanding and desire for fertility maintenance and maximum production.

I am submitting herewith a brief statement of my training and experience. -----

Very truly yours,
F. A. Wyatt

Edmonton, Apr. 8, 1919

Dr. F. A. Wyatt
College of Agriculture
University of Illinois
Urbana, Ill.

Dear Dr. Wyatt:

----- We are creating a Department of Soils to rank with the Departments of Field Husbandry and Animal Husbandry. It has been my plan from the first to put these three Departments on the same basis, as far as importance in service to our province is concerned. Inasmuch as we do not have to teach students of the first two years but confine our academic work entirely to the third, fourth and fifth years, the teaching is comparatively light and the opportunity for research greater. The man we select will be the independent head of the Soils Department - the field for research to my mind has no limit. We must get a man who understands Irrigation as well as Dry Farming conditions and also what pertains to Drainage problems. As far as I can see your training should have fitting you for the work, -----

Sincerely yours,
E. A. Howes,
Dean

Edmonton, May 5, 1919

F. A. Wyatt, Esq.
College of Agriculture
University of Illinois
Urbana, Ill.

Dear Dr. Wyatt:

Dean Howes has shown me your letter of April 28th -----

I understand Dean Howes wrote you we intended to create a Department of Soils. Naturally the Department of Soils has intimate relation with such other departments as Chemistry, Biology, Agronomy and Bacteriology. The relationship of the Department of Soils, when put into operation, with the departments just mentioned will have to be close and amicable. Subject to a satisfactory personal interview, we would offer you then the Professorship of Soils at an initial \$3000 per annum, duties to commence on the 1st of October next. -----

Faithfully yours,
W. A. R. Kerr
Acting President

Edmonton, May 6, 1919

Dr. F. A. Wyatt
Department of Agronomy
University of Illinois
Urbana, Ill., U.S.A.

Dear Dr. Wyatt:

----- I can only add my sincere wish that you may see fit to move up to Alberta. I secured my Professor of Animal Husbandry from Ames, and he has been splendidly satisfactory. I have always wished to get a Soils man from your institution and I may say that I will be much disappointed if I fail to do so. I am not going to do any boosting for this country, but I can say that there is an interesting and profitable future ahead for a new man as head of our Department.

Sincerely yours,
E. A. Howes,
Dean

Edmonton, June 12, 1919

Dr. F. A. Wyatt
Department of Agronomy and Chemistry
University of Illinois
Urbana, Ill., U.S.A.

Dear Dr. Wyatt:

----- I am pleased to know that you have come to an arrangement. We shall be on the lookout for a house for you near the University if we can secure a suitable one.

----- We are very busy here all summer training returned soldiers in Agriculture. We have been at this game since last summer without any intermission and expect to carry on until next spring at least.

Yours truly,
E. A. Howes,
Dean

And so Dr. Wyatt came to Edmonton to head up the new Soils Department. While other Canadian Universities included a study of soils as a part of the study of Agronomy the University of Alberta was the first in Canada to set up a separate Soils Department. Dr. Wyatt assumed the direction of the Department in September, 1919 and remained head of the Department until his death in 1947.

GROWTH OF THE DEPARTMENT

In 1921, as a result of problems with drought and wind erosion, Dr. Wyatt initiated a soil survey in the Macleod district. This was the start of a steadily expanding program of soil survey throughout the province. The details of the development of the Soil Survey of Alberta are given in a separate report, where the major role played by the Soils Department staff during the first decade is described. Numerous photographs, some shown in the appendix to

this brief history, recall the early days when staff members spent their summers in surveying and their winters in soil analyses and the writing of reports. There is no doubt that its work in Soil Survey throughout the years has contributed a great deal to the Department's effectiveness. Many of our post-graduate students earned their Master's or Doctor's degree while working on some problem in Soil Genesis and Classification and have then gone on to direct Soil Survey work in Alberta, in Canada, and even in far away lands. Farmers, highway engineers, extension people, and others have been drawn to the Department through its work in Soil Survey and good public relations for the University have thus been encouraged.

In 1922 Dr. J. D. Newton joined the staff. Dr. Newton had graduated from McGill University in 1917 and obtained his Ph.D. from the University of California in 1922. In 1947 he succeeded Dr. Wyatt as head of the Department and held this post until his retirement in 1959. Just prior to Dr. Newton's arrival Mr. A. S. Ward (B.S.A. 1921, University of Alberta) had been taken on the staff to help with soil survey and laboratory analyses. Steve remained with the Department until 1930 and then after a period with Cominco returned in 1943 and remained with the Department until retirement in 1955. His major task in this later period was the analysis of soil-test samples sent in by farmers and gardeners and the composing of letters of recommendations as to fertilizer use. In 1956 the newly organized Agricultural Soil and Feed Testing Laboratory took over this work of analysis while members of the Department staff continued to attend to the letters of recommendation.

While Drs. Wyatt and Newton were the core of the Department for the first 25 years many other graduates were employed for varying period as members of the staff or as assistants in the soil survey program, in

laboratory analytical work, and in the general research program of the Department. Their names and the periods of their affiliation are shown in the accompanying chart, along with details for the whole staff up to 1965.

Special mention must be made of Dr. A. Leahey and Dr. V. Ignatieff, or Alf and Jim. Alf was one of the first to earn an M.Sc. in the Department and remained on as a staff member. He joined the Experimental Farms Service in 1936 and, located at Ottawa, rose steadily to the rank of Research Coordinator (Pedology) for all of Canada. Big Jim left Russia at the time of the Revolution in 1917 and went to University in England. All his post-graduate training was in Canada and on joining the staff here in 1936 he became a colorful figure on the campus and particularly around the North Lab. There in his laboratory he was wont to burst forth in song in a manner that earned him the title "The Russian Nightingale". More than once the lecturer in the classroom overhead had to "bang on the pipes" to still the competition. Students of those days recall too how Big Jim (six foot six) and Dr. Ken Neatby (another giant) used to lead the Ag boys in their sing-songs. When World War II broke out "Sandy MacNatieff" joined the Calgary Highlanders and the picture of this strapping Russian dressed in Scottish kilts was a sight to be seen. Dr. Ignatieff is now with F.A.O. in Rome.

Probably the outstanding contribution of the Soils Department to Alberta agriculture during the first fifty years of the Faculty's life has been the establishment of a permanent set of fertility plots at Breton. In the late twenties new settlers were rapidly taking up homesteads in the fringe areas. Many of these areas were forested and the soils were not as fertile and easy to manage as the rich prairie and parkland soils. It was apparent that some extensive experimental work was needed. In 1929, with the cooperation of

Ben Flesher, a farmer at Breton, a site for the first of the Department's experiments on Grey Wooded soil was selected. In 1930 Drs. Wyatt and Newton began their long-time fertility work there and the plots they began have been continued to this day. The only changes have been by way of expansion or slight modification of the treatments. The experiments have shown that with proper use of commercial fertilizers and crop rotations the Grey Wooded soils will produce good crops. They have undoubtedly helped in the development and management of Alberta's forest soils. Other major contributions of the Breton Plots have been the demonstration of the need for sulphur as a fertilizing nutrient in this particular soil and the pronounced effect on grain quality of rotations and various fertilizers. The establishment of these plots was commemorated in 1962 by the erection of a cairn at the site. Photographs taken on this occasion appear in the appendix.

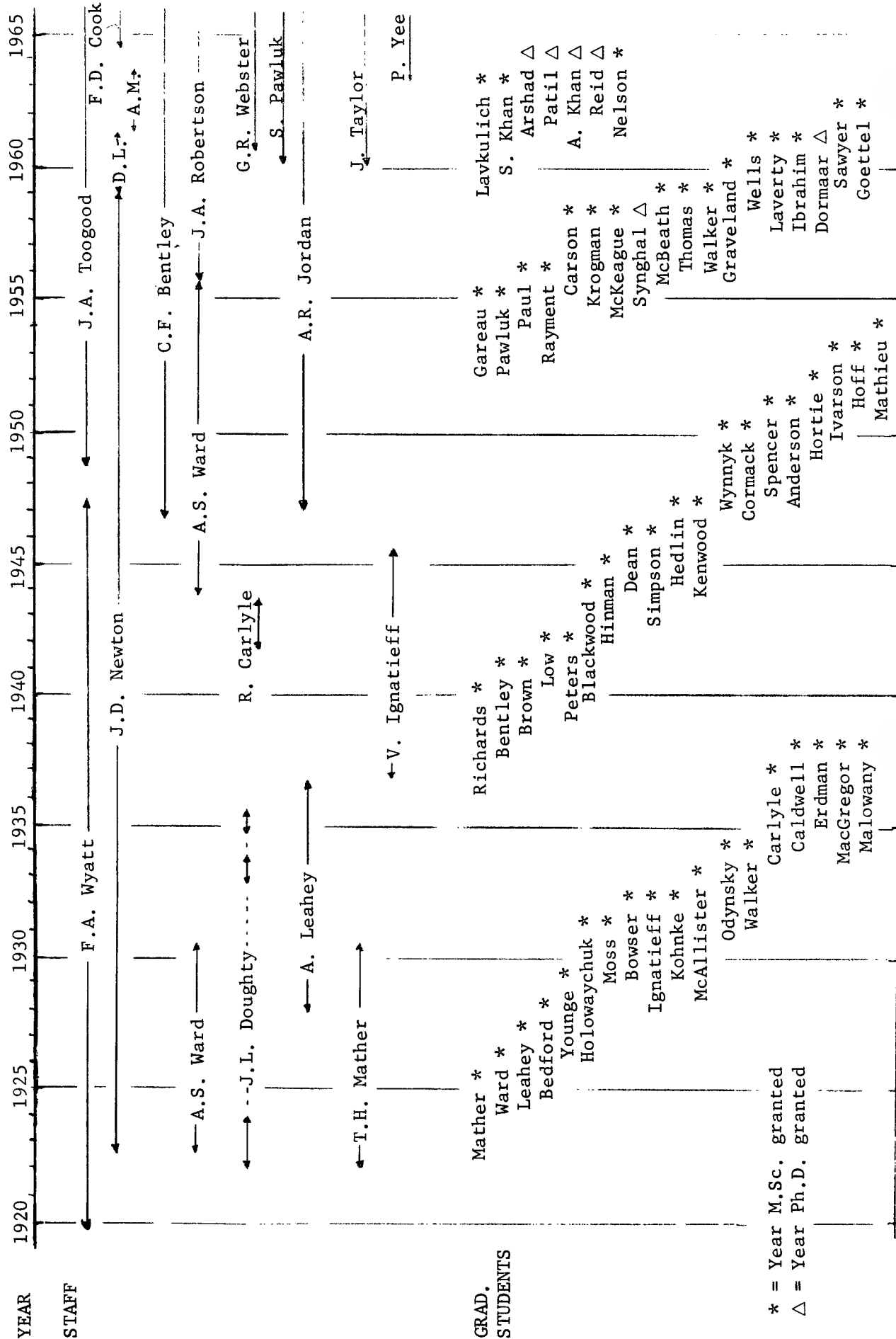
Another classic study carried out by the Soils Department in the late thirties dealt with the deterioration of virgin soils when they are brought under cultivation. Under the direction of Dr. J. D. Newton virgin and cultivated soil samples were collected throughout Alberta, Saskatchewan and Manitoba. A number of graduate students did research work on these samples, comparing nutrient levels, and paying particular attention to the fate of organic matter and nitrogen. A number of papers were published based on this research and these have become classic references on the subject in Canada.

A major development over the years has been the growth of the soil-testing service. By the mid-fifties the number of samples coming in from farmers, gardeners, and greenhouse operators had increased to the point where a special laboratory was needed, as referred to earlier. The number of samples submitted has risen rapidly until at the time of writing it

exceeds 6,000 per annum. Coupled with soil testing for farmers has been the cooperative program of fertilizer testing. With fertilizers and financial assistance supplied by industry, and with excellent cooperation from farmers throughout the province, the Department has, since the mid-twenties, been studying the value of fertilizers by means of test plots located on farmers' fields. This research was essential in order to give advice in the proper use of fertilizers. The Department's work in this field has no doubt played a part in the rapid increase in sales of fertilizers in Alberta.

The accompanying chart shows the rapid growth of the Department in the years following 1945. By 1962 there were five staff members, six if Dean C. F. Bentley is included. Dr. Newton's many years of work in Soil Microbiology was carried on after his retirement, first by Dr. Darrel Lynch (1959-1961), then by Dr. Alan W. Moore (1962-63), and finally by Dr. Fred D. Cook (starting in 1964). The Department's interest in soil survey gradually changed its emphasis from field work, analysis, and reports to teaching and research aspects of soil genesis and classification. Meanwhile the head of the Department remained as Chairman of the Alberta Soil Survey Committee, a group responsible for coordinating the work throughout the province. Teaching and research aspects of soil classification were handled originally by Dr. C. F. Bentley, and after his promotion to Dean, in 1959, by Dr. S. Pawluk. The increasing demands for research in the fields of soil fertility, soil chemistry, soil physics, and soil testing lead to the appointment of additional staff members: Dr. J. A. Toogood (1948), Dr. J. A. Robertson (1955) and Dr. G. R. Webster (1960). The rapidly expanding research program required the appointment of a number of technicians, including A. R. Jordan (1947), A. S. J. Taylor (1959), and P. Yee (1963).

SOILS DEPARTMENT PERSONNEL AND GRADUATE STUDENTS, 1919-1965

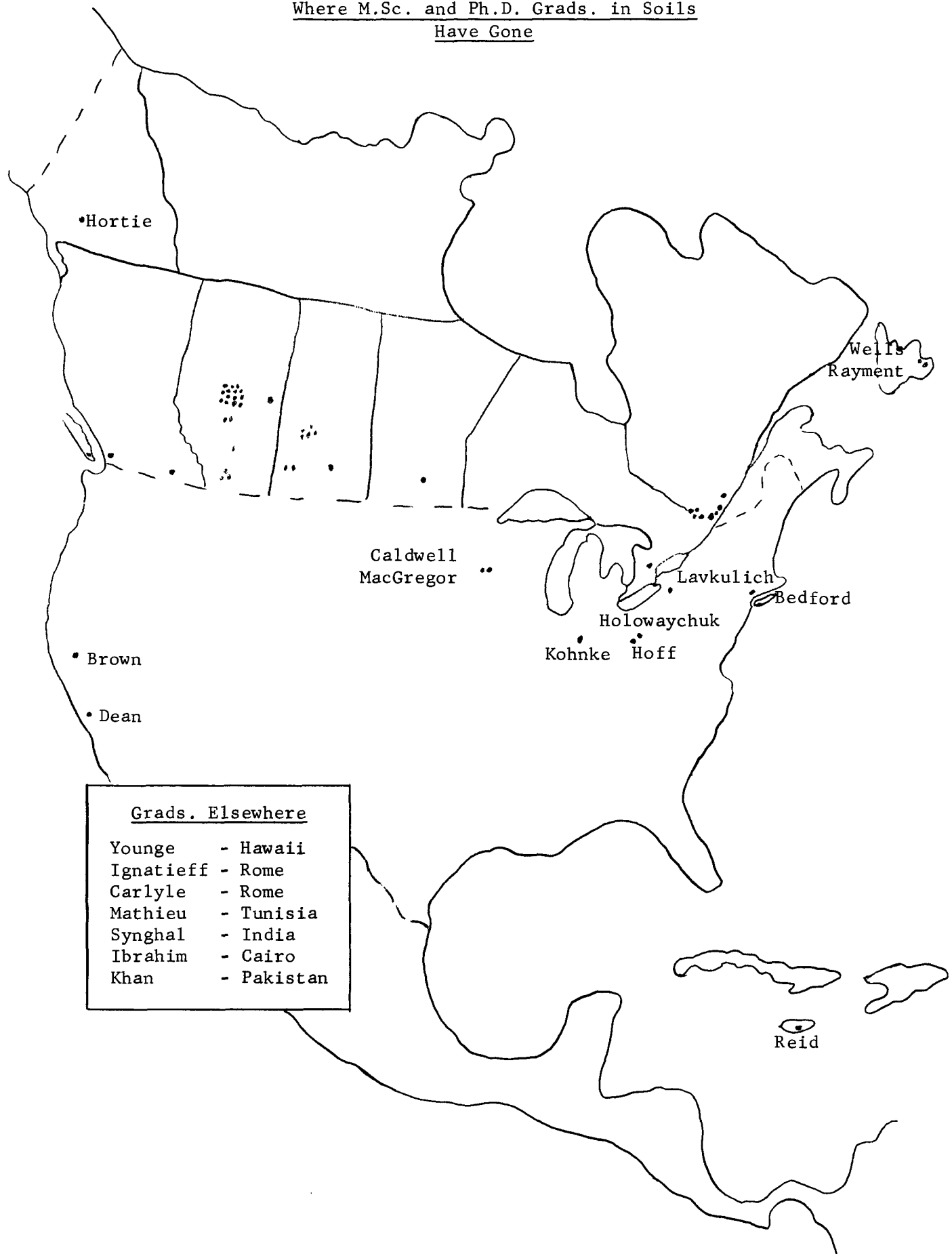


The chart on Page 9 indicates the growth in research activities by the number of M.Sc. and Ph.D. degrees granted. From 1924 to 1944 a total of 24 advanced degrees were awarded. From 1944 to 1964 the number was 37, including 6 Ph.D. degrees. A perusal of this list of graduates will take you on an extended tour for they have gone to positions, many with great responsibility, in places scattered around the world, as portrayed in the accompanying map. (See Page 11).

Some other details of the Department's work over the years might be mentioned in concluding this account. Field days, sponsored by government, university, or local organizations have frequently offered opportunities for staff members to speak to and to meet the men on the land. Short courses and field trips arranged mostly by government and university groups have been another means of extension. The interest of Soils men in professional aspects of agricultural training is shown by the following facts: Dr. J. D. Newton was first President of the Canadian Soil Science Society (1954-55); Dr. C. F. Bentley was President of the same society in 1956-57, and President of the Agricultural Institute of Canada in 1963-64; Dr. J. A. Toogood was Registrar of the Alberta Institute of Agrologists from 1953 to 1964; Dr. J. A. Robertson was appointed Registrar in 1964; Dr. G. R. Webster was elected Councillor for Western Canada to serve on the Executive of the Canadian Soil Science Society for 1964-66.

A summary of the highlights in the Department's history is given on pages 12 and 13, and selected photographs follow on pages 14-24.

Where M.Sc. and Ph.D. Grads. in Soils
Have Gone



ACHIEVEMENTS AND EVENTS OF NOTE, 1919 - 1965

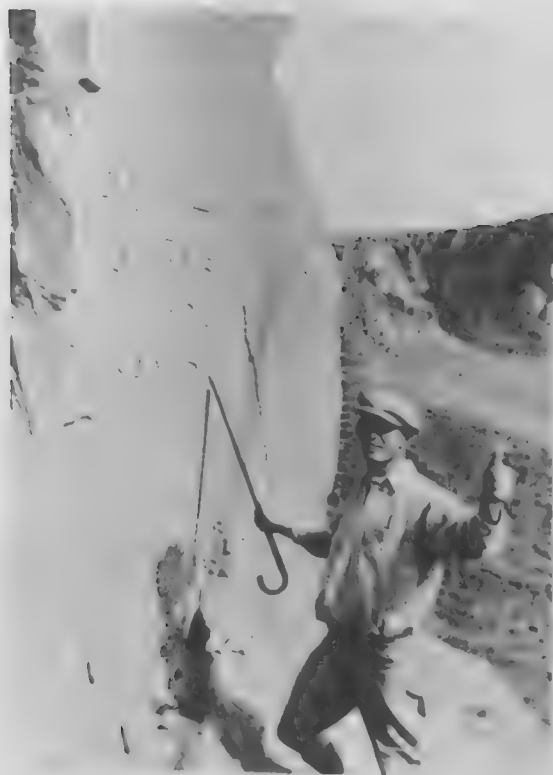
- 1921 (1) Initiation of Soil Survey of Alberta.
- (2) First U. of A. Circular from Soils Department published:
 "Soil Sampling".
- 1922 First formal minutes of a Departmental Meeting, September 28
 Present: Messrs. Wyatt, Newton, Ward, Doughty.
- 1924 (1) Initial fertility experiments at University Farm.
- (2) Soil Seminars formally begun.
- 1925 (1) First Soil Survey report published - the Macleod Sheet.
- (2) T. H. Mather, first M. Sc. in Soils, granted (The first three
 M.Sc. degrees granted were on the basis of course work
 only).
- (3) First edition of U. of A. circular "Legume Inoculation"
 published by Wyatt and Newton.
- 1926 (1) First radio talks on soil topics.
- (2) Cooperative fertilizer tests on farmers' fields begun
 about this time.
- 1927 First International Congress of Soil Scientists, on their tour
 of Western Canada, entertained and shown some Alberta soils,
 July 13.
- 1928 R. H. Bedford, first M. Sc. thesis in Soil Science. (From
 Bedford's time onward all M.Sc. candidates had to do a research
 project and write a thesis).
- 1929 Dr. Wyatt served on International Commission inquiring into SO₂
 damage from Trail smelters, a problem which culminated in develop-
 ment of fertilizer industry there.
- 1930 (1) Breton Plot experiments set up in Ben Flesher's field.
- (2) Rotation and fertility plots started at University
 Farm. Terminated 1963.
- 1932 First edition of "Grey Wooded Soils and Their Management" by
 Drs. Wyatt and Newton.
- 1936 First publication on value of sulphate as a fertilizer in Alberta,
 by Dr. J. D. Newton.
- 1939 First circular advocating use of fertilizers in Alberta
 published by Drs. Wyatt, Newton and Ignatieff.

- 1945-51 Flood of Veterans of World War II and use of army huts, as temporary laboratory and office facilities, on site of present Chemistry building.
- 1949 (1) Atomic age arrived with use of radioactive sulphur in fertility studies.
- (2) Water erosion plots started at St. Albert. Terminated 1959.
- 1952 Youngstown Irrigation Plots established. Terminated 1962.
- 1954 (1) Moved into new Biological Sciences Building.
- (2) Dr. J. D. Newton elected first President of newly organized Canadian Society of Soil Science. Agricultural Soil and Feed Testing Laboratory established.
- 1958 First Ph.D. in Soil Science granted to K. N. Synghal.
- 1959 Dr. J. D. Newton retired, after 37 years with the Department. Succeeded by Dr. J. A. Toogood.
- 1962 Cairn unveiled July 8 at Breton Plots by President W. H. Johns commemorating the research work begun there by Drs. Wyatt and Newton.
- 1964 (1) Soil fertility plots at University Farm terminated, April 1, and research program transferred to Ellerslie Farm.
- (2) List of publications of Soil Science Department staff, past and present, prepared. They may be classified as follows, with Soil Survey reports omitted,

<u>Years</u>	<u>Scientific papers</u>	<u>Extension publications</u>
1920-1929	15	3
1930-1939	32	6
1940-1949	18	5
1950-1959	29	12
1960-1964*	<u>47</u>	<u>6</u>
	141	32

* To July, 1964.

Early Days of Alberta Soil Survey



Tom Mather points to
title page, 1922



Steve Ward ponders in the
Badlands, 1922



Lowell Doughty and Jack Newton look on while
Frank Wyatt fries the bacon at
Willow Creek, 1922

Soil Survey Scenes in the Twenties



Newton and Doughty pose with prairie posies.



Frank Wyatt does the cooking while Hector McArthur gets some milk for the survey crew.



After lunch bull session - McAllister, Ward and Doughty

Soil Survey Hits the Road



McAllister, Wyatt, Ward and Doughty and Model T's



In heavy going the radiator boiled over and had to be filled frequently; on rainy days the top was put up.



Company to lunch
T. Mather and A. McAllister

Sights Common to Surveyors in the Twenties



Steamers used for plowing and threshing



In wooded areas surveyors often had to travel by packhorse
but on the prairies the Model T could go anywhere.



In days when new models replaced the Model T, remnants
of pioneer sod houses on the prairies and thatched
Ukrainian homes further north were still to be seen.

Early Staff Members



A.S. Ward, J.D. Newton, F.A. Wyatt,
and J.L. Doughty in the Soils
Laboratory. Captioned by
J.D.N. as "No arguments—very peaceful!"
(Mid twenties)



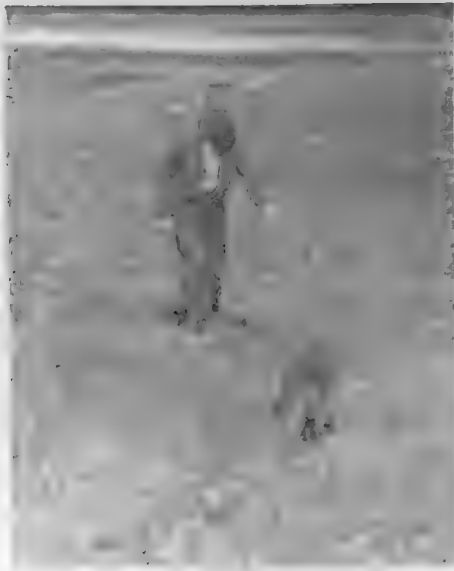
A. Leahey, V. Ignatieff,
and O. Youngue.
(Mid-thirties)



Doughty and Ward at work in the first Soil
Survey lab.



The chief, with pipe as usual, and
Cypress Hills conglomerate.



Alf Caldwell pursues
a porcupine at a
respectful distance.



G.V. Jacks, of Rothamsted,
inspects a road cut
with Dr. Wyatt.



Ward and Mather do
a little advertising.



Art Paul and Erin McAllister
show effects of fertilizer
in a field test strip.



Alf Leahey and Tom Mather taking a soil monolith.
This was one of the first cross-sectional slices
of Alberta soils brought to the University in 1927
on the occasion of a visiting tour of the Inter-
national Soil Science Society. The monolith is
still on display in Room 210 of the Agriculture
building.

The Breton Plots



A Field Day crowd in the early thirties.



Ben Flesher, on whose farm the plots were located.



F.A. Wyatt shows some striking differences in legume growth.



Wyatt and McAllister inspect the plots.



Frank Wyatt and Bob English show some marked responses of grain to proper fertilizers

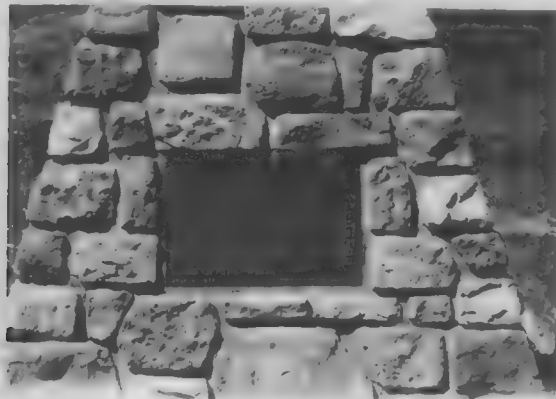


Gordon Wyatt, his Dad, and Eric Kneen line up in proportion to the yields.

A Memorable Day, July 8, 1962



President W.H. Johns addresses the Field Day crowd
and unveils the plaque commemorating the work
of Drs. F.A. Wyatt and J.D. Newton.



Dr. F.A. Wyatt



Dr. J.D. Newton

At the Breton Plots

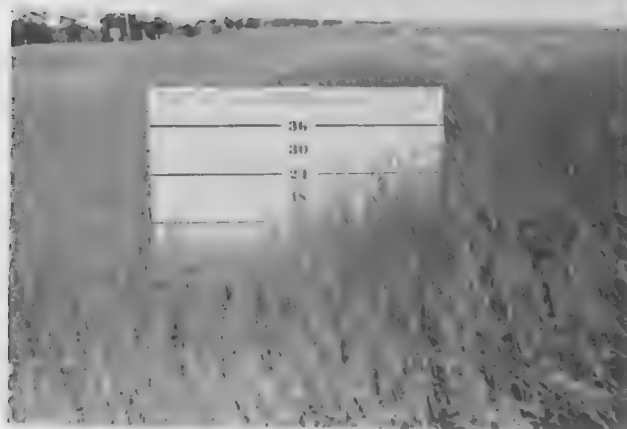
More of July 8, 1962



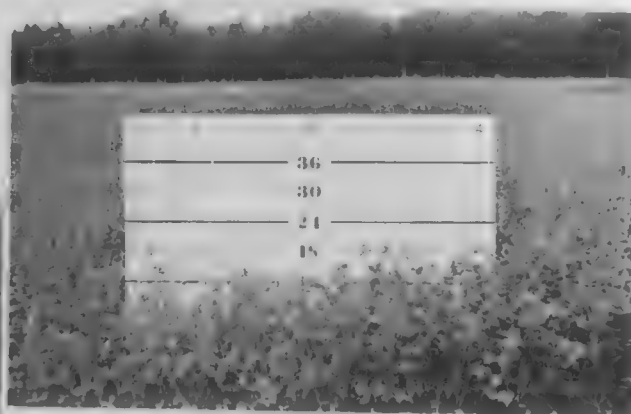
Dean C.F. Bentley has
a few words to say.



A fine day and a nice turnout
to hear the speeches.



Plot 9 (NPS + Manure) thrives in
contrast to Plot 8 (P alone)



Legume grass mixture responds
to 21-0-0 on Plot 4. Plot 5 check.



Two marquees offer welcome shade.



Ben Flesher speaks on
32 years with the Plots.

Excelsior



Early field plots where the Interns' Residence is now located.
Spire of Med. Bldg. and St. Stephen's in distance in left
hand picture. Looking SE towards 112 St. in right hand shot.



The Soils Barn, on 18 acre plot
area south of 51 Ave. and east
of 122 St. Abandoned 1964.



Art Jordan, field man, repair
man, in charge of stores,
etc. etc. etc.



New equipment - new techniques for testing fertilizers
mark the start of the sixties.

A HISTORY
OF THE
AGRICULTURAL SECRETARY
Department of Extension

to 1965

by
E. W. Cormack

AGRICULTURAL SECRETARY

DEPARTMENT OF EXTENSION

The need for agricultural extension was probably the main force behind the founding of the Department of Extension at the University. The first Director, Albert E. Ottewell, was reared on a farm in the Clover Bar district in one of the Province's truly pioneer families. He was also one of the University's first graduates. A dynamic personality, Mr. Ottewell travelled up and down the Province by train, primitive automobile, and quite often by team and wagon. He brought to the scattered rural communities a vision of the educational facilities, a modicum of recreation and entertainment, and provided a channel for authentic information on matters agricultural.

The late Dr. E.A. Corbett was another whose contact with the rural folk of Alberta will always be remembered by those privileged to meet and hear him. A lover of good horses, Dr. Corbett's anecdotes and advice live in the memories of many oldtimers. In his time as Director of Extension, the staff was enlarged by the appointment, in 1925, of Wilf Backman, whose work with the boys clubs - the forerunner of the 4H movement - had already earned him a name in the rural communities. Mr. Backman was the first Agricultural Secretary. The Farm Young People's Week had been launched under Dr. Corbett's auspices and Mr. Backman forged this still-continuing link between the University, particularly the Faculty of Agriculture, and the farm youth.

Attending a series of these annual "weeks" a forceful, energetic, and capable young man rose to be president of the Junior UFA. Donald Cameron had grown up in the Elnora district and was early marked for a notable career. In due course he took his degree in Agriculture, and as Backman had moved on to become head of the Provincial Boy Scout organization, Donald Cameron became Agricultural Secretary in 1930.

During the hungry thirties, the farm people were finding it increasingly difficult to continue their operations, and required morale build up as well. But the Agricultural Secretary was abroad in the land. There are still folk who remember such scenes as this: Donald Cameron giving the commentary and his wife, Stella, showing lantern slides, the subject being the construction of a "header barge" to be fitted by a handy operator to an ordinary horse binder. (We had a short crop that year.)

The launching of the Banff School of Fine Arts in these hungry thirties was a bold step. Maybe some would not describe this as Agricultural Extension but, particularly in these early days, it did a great deal to take some of the country people away from their troubles for a spell, to find refreshment for the soul, and restore their energies before they returned to their everyday tasks.

A number of Agricultural Secretaries and part-time assistants served under Donald Cameron after he became Extension Director in 1935. The one whose impact was most in evidence was Sylvan O. Hillerud, a man

with a great background of experience as soldier, teacher (both in high schools and at the Schools of Agriculture), and laterly as Provincial Apiarist. Community Life Conferences were a feature of the second war era, and in 1950 the first of a successful and continuing series of rural leadership development workshops or short courses was initiated at the Banff School of Fine Arts. Working together with the Farm Organizations and with help from their staff, these two-week courses have come to be recognized by their results and influence, as one of the major contributions of University Extension to the well-being of the rural people.

On Sylvan Hillerud's retirement in 1958, a forthright young graduate from Manitoba became Agricultural Secretary. Allan Des Champs was not one to let the grass grow under his feet. Full of initiative, he opened up a number of fields of service to rural Alberta. Short courses, workshops, seminars, periodic bulletins containing pertinent and up-to-date information, all brought the impact of his personality.

While not necessarily planned, it seems that each new Agricultural Secretary is something of a specialist in a different field.

On Allan Des Champs departure, in 1963, to become Director of Adult Education for the City of Calgary Public School Board, the choice fell on a well-qualified agricultural economist, T.A. (Alf) Petersen. Alf grew up on a farm near Drumheller. He knows the Province very well and is up-to-date in today's farm world. He is well-equipped to face the varied problems that will arise, and to give advice; or, as required, to make provision for any new and demanding educational needs.

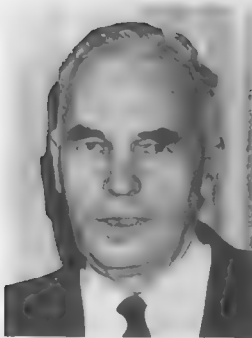
AGRICULTURAL SECRETARIES
(Department of Extension)



A.E. OTTEWELL
THE Extension Department
in the early Twenties



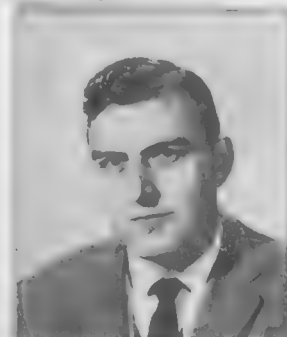
W.S. BACKMAN
1925 - 1930



DONALD CAMERON
1930 - 1935



S.O. HILLERUD
1941 - 1958



ALLAN DES CHAMPS
1958 - 1963



T.A. PETERSEN
1963 -



36th Annual Farm Young People's Week, U. of A. - 1953

A HISTORY
OF THE
ECONOMICS BRANCH
CANADA DEPARTMENT OF AGRICULTURE

to 1965

by
C. C. Spence and Knud Elgaard

THE ECONOMICS BRANCH

CANADA DEPARTMENT OF AGRICULTURE

The Alberta Regional Office of the Economics Branch, Canada Department of Agriculture was formed in 1935 and for twenty-three years was established at the University of Alberta, Edmonton. Throughout the Branch's history its personnel and work has been closely associated with the Faculty of Agriculture and with other university and government departments. This association began with the very first study undertaken by the Branch thirty years ago, a study on land use in co-operation with the University, the Provincial Department of Agriculture, and the Prairie Farm Rehabilitation Administration.

The Economics Branch, Alberta office, was organized to deal initially with problems of land utilization, land classification and farm abandonment that arose out of drought conditions and the price depression of the period. Other major projects of particular interest at this time were the Cattle Ranching and Sheep Ranching Studies of Western Canada. The first Officer-in-Charge of the Alberta office was G. Craig, 1935 to 1937, and he was followed by W.D. Porter who served in this position from 1937 to 1942.

Land use and land classification studies were continued in southern Alberta into the early forties. This broad enquiry into the economic and social problems arising out of present use of land was expanded to northern areas of the province with a series of pioneer studies; these studies dealt with land settlement problems in woodland areas on the fringes of agricultural settlement. The improved economic outlook for agriculture in the early forties had resulted in renewed interest in land settlement, and furthermore, it was anticipated a large group of veterans would want to resettle in the farming business at the end of World War II. Started at this time by the Branch were the Dairy Cost Studies in the province's major milk sheds. These studies were later undertaken by the Alberta Department of Agriculture, and have been conducted annually for the past twenty-six years. By the late forties the senior governments had made large expenditures on irrigation farming and were soon to contribute further to its development. As a result several studies were completed during the period on various aspects of the irrigation economy and its development. Of significant interest, too, at this time, were the level of living studies undertaken in rural areas of the Prairie Provinces. These were for the purpose of assessing the progress achieved by farm families in raising their level of living standards in their short history of settlement. S. Mysak was the Officer-in-Charge from 1946 to 1950.

During the 1950's declining terms of trade for agriculture and the impact of rapid technological change created adjustment problems for many farmers. To provide assistance in resolving the adjustment problems the Economics Branch undertook several studies on various aspects

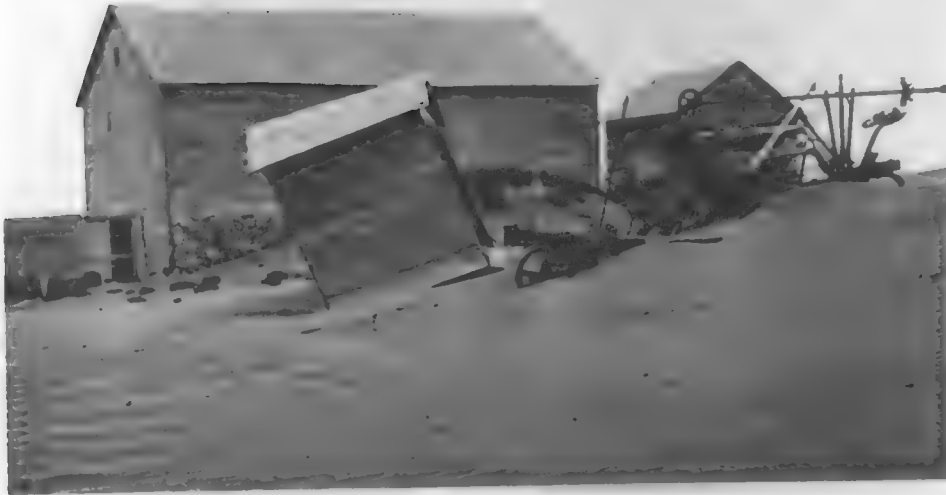
of the agricultural economy and the farm business. Included were studies on the optimum capital requirements for different types of farms, equitable leasing arrangements, price determination mechanism, market possibilities, credit needs and facilities, methods used by farmers for exchanging information, relative merits of different crop rotations, the effects of changing prices and costs on different types of farming and farm mechanization. The Study of Changes in Farm Organization and Practices was started in 1954 in the parkland and wooded regions of central Alberta and has been continued annually to date. Gordon Haase was the Officer-in-Charge from 1951 to February, 1963 and Knud Elgaard is presently in charge of the work at the Alberta regional office.

During the history of the Alberta Economics Branch, C.C. Spence was the most influential member of its staff. He was Officer-in-Charge of the Saskatchewan office from 1935 to 1942, an office established at the same time and for the same purpose as the Alberta office. From 1942 to 1946 Dr. Spence undertook the same responsibilities at the Alberta regional office. Shortly after arriving in Alberta he was also appointed Western Supervisor of the four regional offices in western Canada, a position he held until his retirement in December, 1961. While on the campus of the University, Dr. Spence was located at St. Joseph's College.

In the history of the Economics Branch its total staff ranged in size from ten to fifteen persons. During this thirty year period over forty student assistants were employed and about eighty professional staff members; of these about one hundred were graduates of the Faculty of Agriculture. After a short training period with the Economics Branch one-third of the staff proceeded directly to graduate school; another third undertook graduate studies at a later period in their careers. Presently, many former students and staff members employed by the Branch are engaged as farmers, housewives, ranchers, teachers, lawyers, and business men while many others are in foreign agricultural service, directors of government and university departments and of businesses associated with agriculture.

For the future it is anticipated many more agricultural graduates will be required by the Economics Branch in its work on rural redevelopment and adjustment problems. And, although the Branch moved from its upstairs offices in the Print Shop of the University to the downtown Federal Building in 1958, it is anticipated there will be increased co-operative undertakings involving professional agriculturists in economic research, technical agricultural research, extension and education. The Economics Branch has recently initiated a major research project on the long term future development of irrigation in Alberta and western Canada, which like the very first project undertaken thirty years ago, is a co-operative undertaking involving the Provincial Department of Agriculture, the Prairie Farm Rehabilitation Administration, and the Faculty of Agriculture.

CONDITIONS OF THE THIRTIES BROUGHT IN FOCUS
THE CENTRAL PROBLEM OF LAND UTILIZATION



Abandoned



Arrival of settler's effects at resettlement areas

SOCIAL PROBLEMS AND STUDIES IN RURAL LIVING - EARLY PORTALS



An old rural schoolhouse

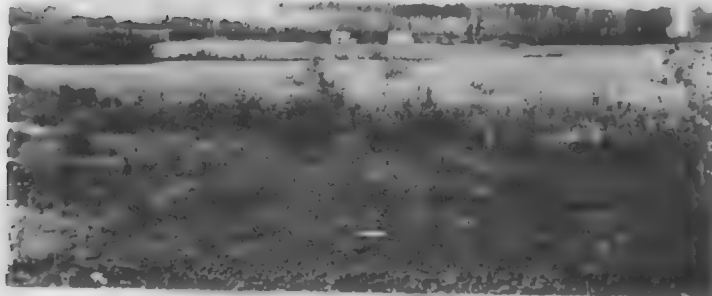


The farm family's first house



The village meeting-place

A RENEWED INTEREST IN PIONEERING
WOODED AREAS ON THE FRINGE OF SETTLEMENT



A Settler well on his way in Land Development

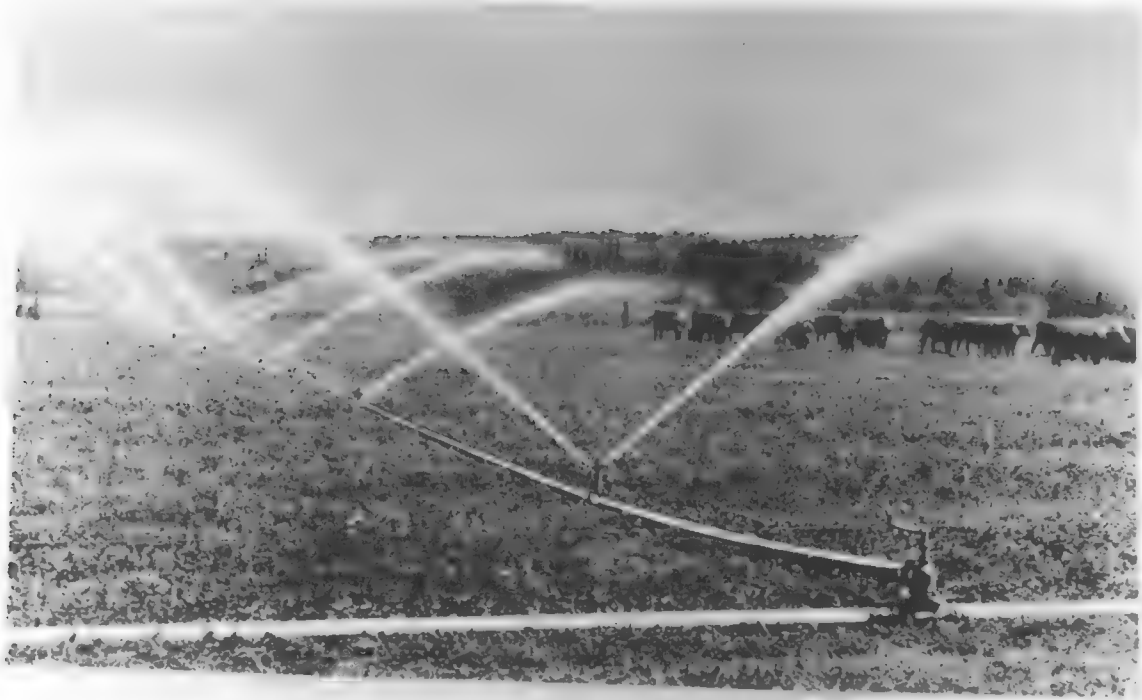


Providing Building Materials with a Homemade Sawmill



One of Many Ways to Supplement Farm Income

IRRIGATION DEVELOPMENT



Irrigating forage crops with sprinklers



Dr. C. C. Spence



The first crop of wheat on irrigation

LARGE MODERN FARMS



Mechanization and Intensification



A well planned farmstead

A HISTORY
OF THE
CANADA LABORATORY OF PLANT PATHOLOGY
UNIVERSITY OF ALBERTA

—
to 1965
—

by
G. B. Sanford

CANADA LABORATORY OF PLANT PATHOLOGY

The Canada Department of Agriculture established a Laboratory of Plant Pathology for Alberta on the University campus in May 1928; it was associated with the University Department of Plant Science. President H.M. Tory, on behalf of the University, offered the Canada Department of Agriculture free housing and services. Dr. Tory wished all research work in Alberta to be located on the University campus where both work and staff could benefit from the academic environment and equipment, and also that this association could be helpful to the University. Dr. G.B. Sanford, a graduate of the University of Alberta (1920) and member of the Plant Science staff of the University from 1920 to 1922, was officer-in-charge until June 1955 when he was succeeded by Dr. L.E. Tyner.

The initial research staff consisted of Messrs. G.B. Sanford, W.C. Broadfoot, and M.W. Cormack. Subsequent research staff (with appointment dates) were: H.T. Robertson, 1930; L.E. Tyner, 1932; S.B. Clay, 1940; J.G. Grimble, 1942; T.R. Davidson, 1943; S. Fushtey, 1951; S. Hrushovetz, 1952; J.B. Lebeau, 1952; W.P. Campbell, 1953; W.P. Skoropad, 1953; E.W.B. Ward, 1958; N. Colotelo, 1958; L.J. Piening, 1961. Broadfoot transferred to the Ottawa laboratory in 1945 and Cormack to the new Lethbridge laboratory in 1948. Robertson, Clay, Grimble, and Fushtey resigned for other work, each after about two years of service, and Hrushovetz in 1956 to obtain a medical degree. Lebeau was transferred to the Lethbridge laboratory in 1957. Ward was transferred to the laboratories at London, Ontario in 1961, and Campbell to Ottawa in 1962. Skoropad and Colotelo accepted positions in the University Department of Plant Science in 1959 and 1962, respectively.

Five of the above mentioned members of the staff, viz: Messrs. Cormack, 1931; Tyner, 1933; Davidson, 1950; Fushtey, 1950; and Hrushovetz, 1953 were granted the degree of Master of Science by the University of Alberta. Doctoral degrees were obtained by Messrs. Sanford in 1925; Broadfoot in 1933; Cormack in 1937; and Tyner in 1939 from the University of Minnesota; Hrushovetz in 1955 and Campbell in 1956 from the University of Toronto; Lebeau in 1954 and Skoropad in 1955 from the University of Wisconsin; Colotelo in 1957 from the University of Saskatchewan; and Ward in 1959 from the University of Alberta.

The function of the laboratory was to investigate diseases of important crops in the province with the object of achieving control measures. Well over a hundred research papers were published in journals of Canada and the United States.

Approximately half of the papers were concerned with diseases of cereals - root rots, foliage diseases, and loose smut. Three other main divisions of research accounted for the remaining publications, viz: the effect of the soil microflora on fungal pathogens, diseases of forage crops, diseases of potatoes.

Cereals, forage crops, and potatoes suffer in common from diseases of the parts below the soil surface. Here the pathogens must survive in association with countless other species of fungi and bacteria. Sanford, in 1925, at the University of Minnesota, published an important pioneer paper on the control of a fungal pathogen by organisms associated with it in the soil. This stimulated research by other disciplines, including its relation to medical therapy. Other extensive confirmatory work was done at this laboratory.

Root rots take a greater toll of the wheat and barley crops in Alberta than smuts and rusts. Root diseases received major emphasis and the problem was attacked on many facets, as: effects of antibiotics, nutrition, and crop rotation. The latter has been, to date, the only practical means of control. The living and decaying tissues of each plant species promote certain microflora in the soil. Root pathogens may find this association harmful to them or harmless, depending upon the crop considered. The first application of chromatography to plant pathology in Canada was made in reference to the physiology of the root rot pathogen. Genetic studies of this fungus were also conducted.

Foliage diseases of barley cause substantial reduction in yield, hence research attention was directed to them. The biological principles of the "scald" disease were, for the first time, elucidated at the laboratory. Important advances were also made in research on net blotch.

Loose smut of barley and wheat was the only smut disease studied. New, simple methods of eliminating smut from infected seed were discovered. These methods are applicable on any farm.

Ergot of cereals is of worldwide distribution and when the sclerotia are present in marketed grain, downgrading losses result. Research on this disease demonstrated for the first time the actual mode of infection. Practical methods of control under field conditions were also determined.

Prior to 1930 no investigation of the pathogens that attack alfalfa, clovers, and grasses had been made in Alberta. Intensive work was undertaken at the laboratory and a series of studies in depth were reported. These papers are considered as classical studies in this field of investigation. A low temperature fungus disease of grasses and other forage crops was first identified and investigated at the laboratory. It was found that the causal fungus produced hydrogen cyanide in sufficient concentration to kill the plant hosts during early spring. A series of original papers on the physiology of the pathogen were published.

Potato diseases studied were those caused by soil fungi and those induced by insect transmitted viruses and toxins. In common with root diseases of cereals and forage crops the diseases of potatoes caused by soil fungi are most complex and must also be considered as related to the existing microbiology of the soil. The Rhizoctonia disease of potato afforded a good opportunity to study the effects of the soil microflora upon the pathogen. Many papers on this disease were published.



Early staff members - left to right:
 H.W. Cormack, W.C. Broadfoot, L.E. Tyner,
 F.B. Sanford, Miss M.A. Brodie - Secretary.



East Laboratory, U. of A. - Quarters of
 the Florida Laboratory of Plant Pathology,
 1922 - 1942.

A HISTORY
OF THE
ALBERTA SOIL SURVEY
UNIVERSITY OF ALBERTA

to 1965

by
W. Earl Bowser

The Alberta Soil Survey

Dr. Frank Wyatt, newly appointed professor of the newly created Department of Soils, University of Alberta, began to systematically classify the soils of Alberta during the summer of 1920. Now, 45 years later, the Alberta Soil Survey has a staff of 13 research officers, 3 technical officers, 14 seasonal student assistants, and a secretary-stenographer, all engaged in classifying, mapping, analysing, and determining the capabilities of Alberta's soil resource. During that 45 years the soil surveyors have travelled the highways, byways, and remote nooks and corners of the province. They have prepared maps and reports covering 2 million acres by detailed survey of proposed irrigation land; 60 million acres by reconnaissance survey in the dry land farmed portion of the province; and over 80 million acres by exploratory survey in the hinterland - and all for the purpose of better understanding, more profitably using, and more realistically conserving our major natural resource, the soil. In fact, as of this date, there has been some information gathered on all of the province, with the exception of the foothills area from Drayton Valley north to the 16th base line.

The Alberta Soil Survey has, from the beginning, been financed from more than one source; it has definitely been a co-operative organization since 1935. Today the Canada Department of Agriculture, the Research Council of Alberta, and the Soil Science Department of the University of Alberta participate in the work. Each of the three co-operating bodies is administratively independent, yet they work under one roof and, for technical direction, come under the guidance of an Advisory Committee (established in 1948) composed of representatives of the three services. The personnel of the present (1964) Advisory Committee is Dr. J.A. Toogood, head of the Soil Science Department, University of Alberta; Dr. A. Leahey, chairman of the National Soil Survey Committee, Ottawa; Mr. W.E. Bowser, senior pedologist, Canada Department of Agriculture, Edmonton; and Mr. Wm. Odynsky, head, Soils Division, Research Council of Alberta. The work of the Alberta Soil Survey and its evolution to present status is the subject of this history - now back to the beginning.

The first survey project was the delineation of the province into broad soil - climatic zones: to separate the semi arid brown soils of the southeast from the black soils of the central part of the province, and these in turn from the grey wooded soils of the north and west. The first zone map, begun by Dr. Wyatt in 1920, was completed about 1925. A slightly modified revision of this map was presented to the International Soil Science meetings in Washington, D.C. in 1927. Since that time the map has been under constant revision and throughout the years has been widely used by administrators, researchers, and farmers. Tens of thousands of copies of this zone map have been printed and distributed - both within and outside the province.

In the early twenties wind erosion became a serious threat to the farms in southern Alberta, and large scale desertion of farmsteads was under way. To abandon land, seriously depleted of its fertility in less than one generation of farming, was hardly in keeping with those who were proclaiming the "limitless possibilities of the Great West". Something had to be done and that something must start with a knowledge of the soil itself. In 1921 Dr. Wyatt and J.L. Doughty did some preliminary work in

this area and the following spring the Soil Survey of the Macleod sheet began in earnest. Six men and two Model T Fords made this survey. Keeping those two 1922 Fords running, through mud, over the prairie and across coulees required that the men be mechanics as well as soil surveyors. It is reported that many a barbed wire fence was shortened in the interest of keeping a fender from parting company at the next coulee. The maps prepared on this first survey carried much valuable information - not least in importance was the exact location of every swimming hole.

Between 1922 and 1926 over 7 million acres in southern Alberta were surveyed in the Macleod, Medicine Hat, and Hanna - Alsask areas and reports were prepared covering these areas. It should be noted that from the first, the soil survey reports were distributed free of charge to anyone interested.

This work was jointly financed by the University of Alberta and the Provincial Department of Agriculture, and under the direction of the head of the Soils Department. The Dominion Department of Interior assisted to the extent of providing the base maps and in drafting the soil map. Before leaving this first period of the survey's history, a word about those six surveyors. (By the way, the two Model T Fords were discarded in 1923 for more luxurious self-starting Chevrolets.) Dr. Wyatt remained as head of the Soils Department until his death in 1947. During his 28 years here he continued to seek support for the Soil Survey and it is primarily because of his efforts that today we have so large a volume of information available on our soil resources. The second of the six was Dr. J. Lowell Doughty. He became Officer-in-Charge of the Soil Research Laboratory at Swift Current (now deceased). Dr. J.D. (Jack) Newton remained with the Soils Department and became head of that department in 1947 (now retired). Dr. (Tom) Mather joined the Fertilizer Division of Consolidated Mining and Smelting Company and became manager of market, research, and sales (now retired). Mr. A.S. (Steve) Ward, after a term with Elephant Brand Fertilizer, came back into the Soils Department at the University (now retired). Mr. J. (Jack) McAllister decided that the field of Pedology was not for him and he joined the sales staff of Sun Life Insurance. One can only guess that the experience in persuasive argument that he received while defending his classification of the soil on that southern Alberta survey was good training: he became manager of Sun Life's thousands of branches.

Brief mention should be made here of two outstanding visits by world authorities on soil classification and mapping. In 1925 Dr. Marbutt, Officer-in-Charge of the United States Soil Survey, accompanied by Dr. Shants, visited Alberta to study our soils. Their visit did much to stimulate interest in a study of the complete soil profile, and of the importance of the type and arrangement of the horizons within that profile. In 1927 we were honored by a visit from members of the International Soil Science Association. Among their number were Dr. Glinka from Russia (often called the father of present methods of soil classification), and Drs. Marbutt, Von Sigmond, Hissink, Waksman, and also Sir John Russell and Sir Wm. Ogg.

One more name must be mentioned here. Dr. J.A. (John) Allen, head of the Department of Geology at the University of Alberta. From the very beginning, up to the time of his retirement in 1949, he gave valuable assistance to the Soil Survey. His visits to the field were always a great

inspiration and he and his department supplied the basic geological information for the survey reports.

With the completion of the southern surveys Newton and Doughty started work in the fall of 1926 on the St. Ann sheet west of Edmonton. T. Mather and A. Leahey completed the field work on this survey in 1927. The survey map of the St. Ann marked a forward step in soil mapping technique brought about, in part, by the exchange of ideas with the above mentioned visiting scientists. The earlier survey maps divided the areas on the basis of surface texture only - the St. Ann map recognized additional profile characteristics and laid the foundation for the changeover to the series type of classification used in later surveys. Much of the credit for this advance in mapping technique goes to Dr. Tom Mather. Assistance from the Alberta Department of Agriculture continued until 1930. This made it possible to do some surveying on the Edmonton sheet. Mather, Leahey, and J.C. (Cliff) Hide were on this survey.

In 1921 the Alberta Government set up a Research Council whose function it was to obtain information on our natural resources. By 1928 there was a growing demand for new land and a potential source for this was the vast relatively undeveloped Peace River country. The Research Council that year (1928) made money available to conduct exploratory soil surveys in the Peace country and to delineate those areas that had desirable soil: these to be opened for homesteads.

Again the Survey was headquartered in the Soils Department of the University under Dr. Wyatt's direction. Work the first year was confined to the Athabasca - Lesser Slave Lake area. From 1928 to 1931 pack horse traverses were made from Cold Lake to Cheecham, from High Prairie to Peace River, the Saddle to the Clear Hills, Grimshaw to Keg River, and from Fort Vermilion to Keg River, an area totalling over 20 million acres. Doughty, Leahey, and O.R. (Otto) Young were party chiefs on these surveys. At first these surveys used teams and wagons to transport equipment, and saddle horses for the survey trips, but the wagon was soon abandoned in favor of pack horses. By trial and error it was found that it took two pack horses per man to carry one month's supply of food and equipment.

Each party consisted of a party chief, an assistant, a cook, and a packer. The food carried consisted mainly of flour, sugar, bacon, lard, salt, tea, coffee, beans, rice, raisins, and dried fruit. This was to be supplemented with wild game - that, by the way, didn't always co-operate.

Equipment consisted of note books, an axe, shovels, and rope. The axes were for clearing trails. The shovel is a necessary part of any soil surveyor's equipment. He must dig into the soil if he is to appraise it. The rope was often necessary to pull pack horses out of streams and muskegs.

Additional names appear on the list of soil surveyors: N. (Nick) Holowaychuk, Dr. (Rex) Young (who may have become interested in surgery while attending the wounds of man and beast on these muskeg treks, because he became a practising physician and surgeon), A.D. (Art) Paul, J. (Joe) Lehane, and H. (Harry) Mather. In 1931, due to shrinking budgets, the assistance to the Research Council for survey work was withdrawn and the northern surveys were for the time discontinued. A different and somewhat unique system of classification was used on these surveys, namely a

combination of genetic features and desirability for cultivation.

By the mid-twenties some of Alberta's irrigation projects were experiencing serious financial difficulties. (A similar situation was occurring in western United States.) So serious was this in the United States that the President appointed a commission to investigate and their report said, among other things, that the lands within a project should be assessed in accordance with the crop producing quality of the soil. A relatively obvious conclusion but one that heretofore had not been recognized; this fact was also being realized in Alberta. In 1929 the Soil Survey made a detailed survey of the Lethbridge Northern Irrigation project. A.S. Ward was party chief. This survey worked from a camp site usually set up in a ditch rider's yard. Traverses were made at 200 to 300 yard intervals. The surveyor soon learned that a quick dip in each irrigation ditch was not only cooling but produced a beautiful tan. The names of W.E. (Earl) Bowser, J. (Jack) Hunter, A.J. (Alex) Charnetski, R.A. (Ralph) Grant, and R. (Dick) Bowen appear on this survey.

This was followed in 1931 by a survey of the New West project west of Vauxhall, and in 1935 of the United Irrigation project northwest of Cardston. (Wm. Odynsky assisted on this latter survey.)

These three irrigation surveys covering approximately 140,000 acres were made of existing operating projects and were primarily for the purpose of adjusting the capital charge against the various farm units within the project on the basis of soil type. In 1936 the Government of Alberta appointed a commission under Judge Ewing to investigate irrigation development in Alberta. Dr. Wyatt was a member of that commission.

With the exception of these irrigation surveys, no other survey work was done between 1931 and 1935, primarily because of the lack of funds. In 1935 the Dominion Government passed the Prairie Farm Rehabilitation Act - called simply the PFRA. The initial purpose of this legislation was to find ways and means to rehabilitate the drought stricken Prairies and again, as in 1921, it was realized that information regarding the soil was basic and necessary. Largely through the efforts of Dr. E.S. Archibald, Director of Canada Experimental Farm Service, the PFRA offered to assist in the re-establishment of soil survey work and in the fall of 1935 a reconnaissance survey in the area adjacent to Manyberries was started. The PFRA paid the salaries, the field expenses, and bought the necessary equipment and the Survey was, as before, attached to the Soils Department of the University and the University provided office and laboratory space. The Dominion's part was administered by Experimental Farms Service. Soil survey work has continued since that time and each succeeding year finds new and greater demands on its service.

Dr. Doughty and Mr. Odynsky started in the Milk River area in the fall of 1935 (Dr. Doughty left for Swift Current the following year). In the spring of 1936 work was shifted to the Rainy Hills sheet and the survey party was increased to include W.E. Bowser and J.M. McGregor (N.N. Bentley and A. Caldwell worked as assistants that summer). This area was so dry in 1936 that only rattlesnakes and cacti showed any real signs of life, and both bore constant watching. Following the Rainy Hills sheet, in quick succession, came the Sullivan Lake, the Lethbridge - Pincher Creek, the Milk River, the Blackfoot - Calgary, the Rosebud - Banff, and the Wainwright -

Vermilion - this last one being completed in 1944. For each of these a report, a soil map, and a rating map were prepared. These areas are all within the area designated as requiring the assistance of PFRA; that is, within the Palliser Triangle. This was a period of steady grind - mapping - analysing - writing - providing information on 2 1/2 million acres per year. It was a period when a large volume of basic information was gathered, and when the soil surveyor could "tend to his knitting without too much diversion". During this period the soil was classified and reported using a three number code categorizing zone, type of parent material, mode of deposition, profile type, and texture.

Over this 8 year period (1936 - 1944) additional names appeared on the survey roster: H.M. (Hugh) Thomson, R.L. (Ralph) Erdman, J.R. (Jim) McFall, G. (Gwynne) Richards, H.O. (Harold) Ritchie, F.R. (Frank) Low, and T.W. (Tom) Peters.

In 1940 the Canada Department of Agriculture set up a National Soil Survey Committee. Due to the war, however, it did not meet until May 1945. Representatives from all Soil Survey units in Canada assembled in Ottawa for that first meeting. Its purpose was to exchange ideas, to unify survey methods and classification across Canada and to generally appraise the work being done. Out of that meeting came, among other things, a uniform system of soil classification for Canada, and following that meeting the method of classifying Alberta soils was changed and the soil series became the basic unit of classification. The year 1945 also saw the beginning of increased work in irrigation survey. The large St. Mary River Development scheme was starting to take definite shape involving 1/2 a million acres of land. That year marked the re-entrance of the Research Council of Alberta into soil survey work, and 1945 marked the beginning of a post-war accelerated programme of settlement including the settlement of veterans.

Dr. Wyatt had not given up the hope that the Research Council would re-enter the survey field and that they would, as far as possible, match the contribution of the Dominion in this work. They appointed, that year, one full time employee, three student assistants, and a cook. Work was confined to the Peace River area, the purpose being to make a more detailed survey of the areas covered in the original exploratory surveys, but for the same purpose, namely, finding new lands that would be suitable for settlement. The full time employee was W.C. (Bill) Hinman. The next year A.L. (Lloyd) Brown joined the staff. In 1948 Mr. Odynsky left the Dominion survey staff to join the Research Council staff.

The Research Council have concentrated their efforts, primarily, in the Peace River area and to date have covered, by reconnaissance survey, about 12 million acres in an area between High Prairie, Hythe, and Manning. To date reports and maps have been published covering the Rycroft - Watino, High Prairie - McLennan, Grande Prairie - Sturgeon Lake, Beaverlodge - Blueberry Mountain, and Cherry Point - Hines Creek sheets. Trailers have replaced the tents, and jeeps and cars have in large measure replaced the pack horse. This year, 1964, a staff of 9 full time employees and 5 summer assistants are on the Research Council staff. Messrs. Andrew Wynnyk, J.D. (Daws) Lindsay, S.W. (Stew) Reeder, M.D. (Marv) Scheelar, P.K. (Peter) Heringa, C. (Neil) Van Waas, Udo Wittneben, Arnold Hennig, J. Bell, G. Plaxton, R.P. Stone, F. Toldy, Mrs. Maureen Shargool, and Drs. S. (Steve) Pawluk, A.L. (Al) Mathieu, and L. (Lawrence) Lowe appear on the Research Council roster for

varying lengths of time between 1945 and 1965.

The Dominion Department of Agriculture branch of the Survey continued to work in the south half of the province. Since 1945 maps and reports have been published covering the Peace Hills, Red Deer, Rocky Mountain House, and Edmonton sheets. This represents over 8 million acres, and preliminary maps have been prepared for the Brazeau and Tawatinaw sheets.

Since the beginning, the soil survey reports have been printed in the University Print shop under the direction of Mrs. Bella Donnan and have been distributed by the University Department of Extension. The reports have had world-wide distribution. The survey maps that accompany the reports have always been printed by the Department of Agriculture, Ottawa.

As intimated earlier, considerable time has been spent on irrigation surveys: the St. Mary, the Bow River, the Carmangay, the Aetna, and the Red Deer Development projects - in all, about 2 million acres of detailed survey. These surveys have, in addition to classifying and mapping the soils on these proposed projects, delineated the arable and non arable land and divided the arable land into 4 classes grading from fair to excellent irrigable land. The information so gathered is of value, first, in helping to determine the feasibility of the project; second, in suggesting the order of development; and third, in determining the size of the irrigation structures necessary to service the project. The names of A.A. (Andy) Kjeersgaard, H.J. (Hector) Hortie, F. (Fred) Schroer, J.A. (Jim) Carson, J.N. Leat, R. (Reg) Milne, J.A. (Alex) McKeague, R.E. (Russ) Wells, W.W. (Wayne) Pettapiece, and G.M. (Graeme) Greenlee appear on the Canada Agricultural Soil Survey roster for varying lengths of time between 1945 and 1965.

In 1955 the Alberta Soil Survey (Research Council unit) introduced the helicopter for exploratory survey - from pack horse-to jeep-to helicopter, in 25 years. During a period of 8 years 80 million acres in the relatively trackless hinterland of northern Alberta were inspected and mapped. By this time aerial photos were available for that portion of the province. Eleven months of each year were spent in obtaining all possible information from the photographs; three weeks were spent in flying over the area (over 8 million acres per year). Landings were made at 5 to 15 mile intervals to sample the soil and check the airphoto interpretation. In all, over 600 flying hours were logged without mishap. The survey covered an area extending from Luscar to Whitecourt, Fort McMurray, Fort Smith, Fort Vermilion, and Clear Hills.

The "North" is a natural habitat for big game, but imagine the surprise when a snake was found manoeuvring around the bubble after one of the take-offs. A helicopter pilot must keep both feet on the control rudders at all times so the soil surveyor aboard concentrated on keeping the snake from finding a hiding spot up the pilot's trouser leg. By careful manoeuvring the reptile was herded into the control box where he rode as a third passenger until the next landing.

Up to this point the story has dealt mainly with field survey - the main function of the soil surveyor. However, he cannot dig in frozen ground so six months of the year are spent at headquarters. There are the soil samples to analyse, reports to write, and special research and

investigations to be pursued. Office, laboratory, and drafting room space is therefore a necessity.

From the beginning until 1946 the Soil Survey was housed with the Department of Soils in the North Lab. The large increase in students following World War II made it impossible to continue this arrangement, so, in 1946, one of the wartime huts was allocated to the Soil Survey. For the first time the personnel were housed as a unit and the name "Alberta Soil Survey" began to be used to designate the unit. Another indication of maturity and growth was that they were able to employ their own secretary - stenographer. Miss Mary Carmichael, a Canada Department employee, was the first incumbent. She was followed in succession by Miss D. Cogan, Mrs. Vivian House, and presently Mrs. Alice Bembridge.

In 1954 the new Biological Sciences Building was completed; the Alberta Soil Survey was allocated 3,000 square feet of space in this building. This seemed, and was, spacious accommodation - today, 10 years later, it is overcrowded. Throughout the years the University has provided the Survey with rent free accommodation as one of their contributions in the co-operative arrangement. This is one method of assuring that the soil workers in the three services will remain in close contact - to the mutual advantage of all.

In recording the history of the Alberta Soil Survey, mention should be made of what might simply be called special jobs. These jobs, however, have amounted to a considerable volume of work. Only a few will be mentioned here.

In 1934 Dr. J.D. Newton was requested by the Canadian Pioneer Problems Committee to supply information regarding the arable potentialities of this province. The information gathered by the Soil Survey was used for compiling this data.

In 1940 when Canada embarked on the Empire Training Scheme a detailed survey was made of 15 airports in Alberta. This was to assist in the problem of stabilizing runways.

During the latter years of the war and in the immediate post war years the staff co-operated very closely with the Veterans Land Act staff. This organization was building up a fairly large potential of arable land to be available for the settlement of veterans. Our co-operation in this took two directions: one was the inspection of sizeable blocks of raw land that the VLA contemplated purchasing; the other phase was the assisting with short courses given to train the VLA field staff in the basic principles of land classification.

From 1945 to 1953 Mr. Odynsky assisted with the Provincial land clearing project in the Peace River district. This assistance was to delineate areas suitable for settlement and that could be prepared for cropping at a cost not exceeding \$25.00 per acre.

The staff has assisted the Department of Municipal Affairs in their work of unifying the assessment of rural lands. This assistance has taken the form of short course lectures to their field staff and to helping evolve a soil classification system that would achieve the objective of

assessing land according to its crop producing ability.

. Between 1948 and 1950 Mr. Bowser served on the Engineering Committee of the International Joint Commission studying the division of the waters of the Waterton and Belly Rivers.

In 1950 Mr. Odynsky assisted the Alberta Department of Lands and Forests in the preparation of a booklet entitled Public Lands Open for Settlement in the Peace River Area. In 1953 this was expanded to cover all public lands in the province. Since then the bulletin has been periodically revised and now includes a description as well as location of the areas available for agricultural development.

Throughout the years soil surveys have been made of the Indian Reserves to assist in planning their agricultural practices. In 1962 - 1963 the Department of Indian Affairs requested a comprehensive study of the physical and human resources of the Blood Indian Reserve; this to be a pilot project for long term planning. The Soil Survey made a soil and land classification of the area.

Display monoliths have been regularly collected. The first were eight collected by Dr. Wyatt in 1926 - four of these still remain in the Department of Soil Science and four are in the Provincial Legislative building. These were 6 feet tall and each weighed 250 pounds. Since then over 300 have been collected, mounted, and streamlined - each one now weighs less than 10 pounds. They are used by the Survey staff for comparisons and by the Soil Science staff for instruction. Representative monoliths have been supplied to the Schools of Agriculture, the Department of Agriculture, Ottawa, and sent as far away as Indonesia.

From 1954 to 1957, in co-operation with the Drainage Division of PFRA, deterioration and other studies were made on the presently irrigated areas of Alberta. From 1959 to 1964 the Alberta Soil Survey co-operated with other branches of the Canada Department of Agriculture in the preparation of a land classification manual for the irrigated areas of Western Canada.

Over the past few years the staff have assisted with studies in the Eastern Rockies Watershed area - particularly in relation to the establishment of a pilot project to measure water yield. There has been assistance provided to the Glenbow Foundation, with studies of prehistoric camp sites; and there has also been assistance to the Department of Forestry in their site classification studies.

The year 1963 may well mark another stage in the activities of the Alberta Soil Survey since, that year, all the Survey units in Canada agreed to prepare a land capability map of the "settled" portion of Canada. This was done at the request of ARDA (The Agricultural Rehabilitation and Development Act). This study is basic to achieving ARDA's goal - the best use of Canada's rural land and human resources. Already there has had to be a staff increase to get this work underway.

There is work and time involved through membership on standing committees, such as: the Alberta Cereal Zonation Committee, Alberta Fertilizer Committee, Irrigation Advisory Board, Peace River Agricultural Co-ordinating Committee, the Land Appraisors Short Course Advisory

Committee, and the various sub-committees of The National Soil Survey Committee. Messrs. Bowser, Mathieu, and Peters have served on foreign assignments with the FAO of the United Nations; Messrs. Wynnyk, Wells, and Lindsay on foreign assignments with private consulting firms associated with Canada's aid programme. And then there are short courses, lectures at field days, and urban as well as rural meetings. There are constant requests by government, business and farm personnel for information on specific areas or land parcels. All of these take time out from the regular job of soil surveying. However, to the pedologist these "odd jobs" are very satisfying since they represent the practical application of the data he gathers.

Research in the field of soil genesis also occupies some of the pedologist's time. The value of the field classification used by the survey is, in considerable measure, dependent on an understanding of the significance of the morphological differences that this classification recognizes: differences related to the genesis of a soil and the genetic relationship between soils. Members of the Alberta Soil Survey have made a considerable contribution to the literature in this field. Although there has been research related to most of the major soils of the province, special emphasis has been placed on the soils of the Podzolic and Solonetzic orders. A considerable portion of this research has been done by staff members while working towards their M.Sc. degrees. In fact, over twenty soil surveyors have received their M.Sc. degrees in the Department of Soil Science while on the Soil Survey staff. Mention should be made here of the over 40 undergraduate agricultural students who have been employed as student assistants during the summer field seasons. This source of employment has been mutually beneficial to the Alberta Soil Survey, the Department of Soil Science, and the student.

This, then, briefly, is the story of the Alberta Soil Survey to 1965: a growth from small beginnings, through periods when there was no one on full time employment in soil survey work to the present staff of 30. Survey technique has been improved and refined. More genetic research is required of the pedologist. And more and more varied requests have been made for the data that is assembled.

There are 160 million acres of land in Alberta - 75 million of this is within reasonable proximity of rail or road facilities. The Survey estimates that about 40 million of this is arable land. Of the 85 million that is still considered hinterland some of it - some day - will grow cultivated crops. It has been said: "The fabric of human life has been woven on earthen looms----. Howsoever high the spirit of man may soar ---- it is on the stomach that humanity, like an army, must ever advance. Beneath the stomach is vegetation; beneath vegetation, the soil ----." As the years progress there will be an increasing demand for the products of Alberta soil; the Alberta Soil Survey must continue to assist in the orderly development, the profitable use, and the continued conservation of that soil.

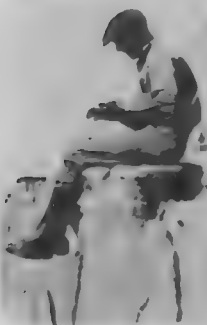
THE "OLD" DAYS



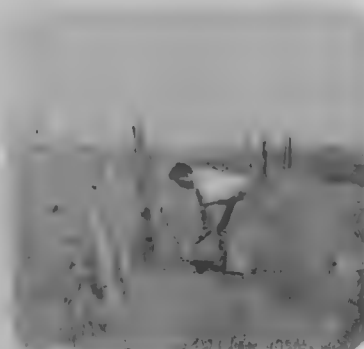
The Survey hits the road - 1922.
(Tom Mather)



Frank Wyatt fries the noon bacon.



Steve Ward
ponders in
the Badlands.



If you
couldn't
go around
it you went
through it.

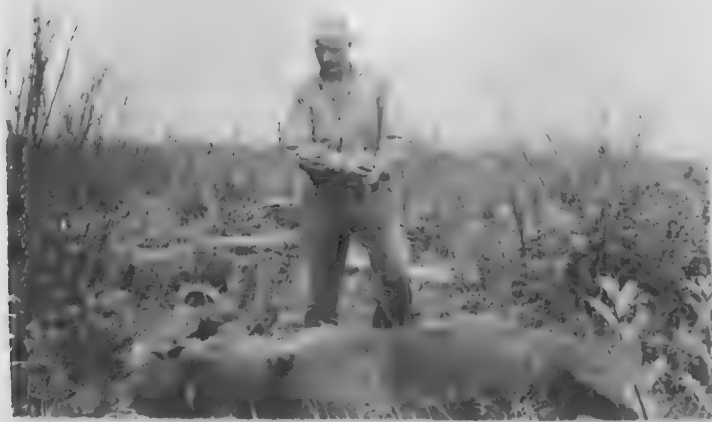


First irrigation survey L.N.I.D. -
1929. Some got a tan.



U.I.D. - 1934
Doughty and Harry Mather
rest a bit.

NORTHERN SURVEYS (1928 - '31)



Otto Younge bags one for the larder.



Hollowaychuk, Paul, and Younge partake.

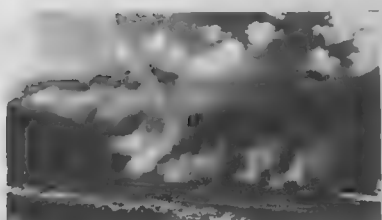


Fording supplies across the river.

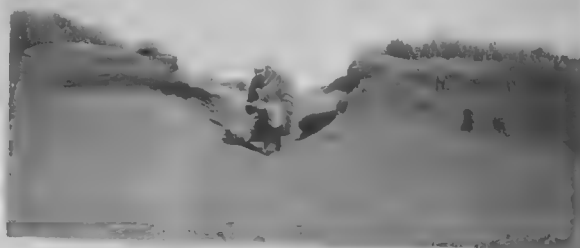
SURVEYING IN "DROUGHT AREA" (1936 - '40)



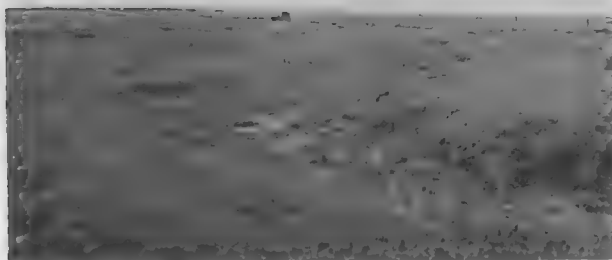
Office - Hotel at Jenner, July 1936
Bentley, Newton, Caldwell, Bowser, Odynsky, McGregor, Doughty



Land on the move.



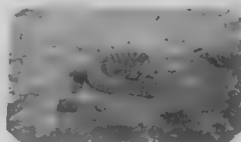
What was left.



Eroded pits in Solonetzic area.



Desertion.



Both had to be watched.

THE SURVEY (1938 - '42)



Sometimes it rained
on the Prairies.



The closest we had to aerial photos.



Inspecting a quartzite at Balzac.



Drs. Wyatt and Allen at writing-on-stone.



Hitchhikers at Cypress Hills.



Erdman in North Lab drafting office.

NORTHERN SURVEYS (1945 - '60)



Summer quarters.



Cook Frank Disney relaxes.



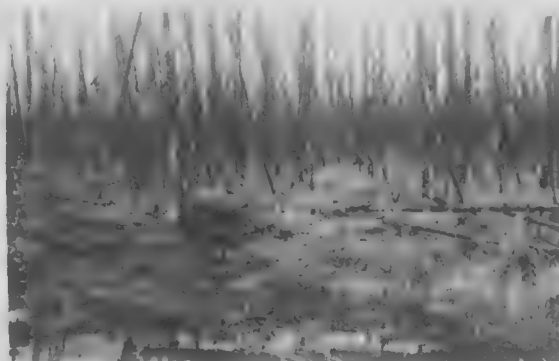
Lindsay and Wynnyk
on helicopter survey.



Land preparation on the Wanham project.



It's a long walk back to camp.



Why didn't someone tell me about this?

ALONG SOME OF THE BYWAYS



Dr. Newton "surveys" the Frog Lake area.



John Leat finds an old millstone near Stettler.



Hec Hortle poses.



Texturing on irrigation survey.



Dr. Wyatt casts a hook near High River.



With Bill Duncan (VLA) on land inspection.



Kjeersgaard surveys the catch.

MONOLITHS



Leahey and Mather take
out a 300 pounder in '26.



Quairi and Goettel take one in '55.



Harold Ritchie prepares one.



Part of the monolith display 1964 (Lindsay).

WINTER WORK



The Drafting Room - North Lab - 1940. It doubled as a sample drying room for Field Crops.



Part of Drafting Room - 1960 Biological Sciences Building



Laboratory - 1964 (Mrs. Shargool was the first woman to join our technical staff.)



Laboratory - 1960

WHEN TWO OR MORE ARE GATHERED TOGETHER

Correlation
on Alberta -
Saskatchewan
border.



Left to right:
Leahey (Ottawa)
Clayton (Sask.)
Bowser
Moss (Sask.)
Doughty (Sask.)



Odynsky - Farstad (B.C.)
Correlation on the
Alta. - B.C. border?



Inspection tour -
N.S.S.C. and U.S.D.A. Rep.



The Survey - 1964
Wynnyk-Reeder-Lowe-Lindsay-Dangerfield-Van Waas-Lupul-Bowser
Carson-Arshad-Pettapiece-Shahamat Khan-Scheelar-Greenlee-Peters
Odynsky-Mrs. Shargool-Kjearsgaard-Mrs. Bembridge-Ali Khan

A HISTORY

OF THE

AGRICULTURAL CLUB

University of Alberta

to 1965

Keith Bresee, Gordon Church,
and
Dewey Stickney

AGRICULTURAL CLUB

The Agricultural Club is one of the oldest clubs on campus, dating back to 1911 when it was founded as the Collegium Agricolarum. The founders were the late A.E. Ottewell (who was to become Registrar of the University), John Blackmore (who became a Member of Parliament) and the late Dr. Lehmann (Professor of Chemistry). Dr. Lehmann, as it is recorded in the minutes, was given the title "Daddy of the Agricultural Club" and in 1922 was granted the first honorary life membership in the Club.

The Club was inactive from 1912 - 1914 but was reorganized in 1915 with the late R.D. Sinclair, former Dean of Agriculture, as the first President. At that time the Club had a membership of 15, and its purpose was to bring the small group of farm students on the campus together for agricultural discussions. The Club today has a membership of 250 and provides numerous academic, cultural, social, and athletic activities for its members.

The term "Aggie" on campus is synonymous with the Agricultural Club. The "Aggies" are one of the most spirited and active groups on campus and are the envy of other student organizations: they have always participated in general campus activities. In March 1922 H.R. Thornton became the first agricultural student to be elected President of the Students' Council: the seventh "Aggie" to fill this important position was Alex McCalla of the class of '61.

In its infancy the Club undertook the sponsoring of speakers, debates, and discussions. In 1930 the late Professor MacGregor-Smith donated a cup which was known as the "Agricultural Discussion Group Cup". Out of these discussion groups a public speaking contest arose which is maintained to the present day. Each year students in their second year, who have been chosen by the Dean from the previous year's public speaking class, compete for the MacGregor-Smith Trophy.

The first deviation from this more or less academic role appeared in 1919 with the formation of an "Agricultural Hockey Team". This marked the introduction of sports, which today include football, basketball, curling, and swimming.

In 1920 the Club introduced social functions, sponsoring a theatre party followed by a supper. This marked the beginning of a new phase in the contribution the Club makes to the University career of an "Aggie". From this beginning numerous social activities have developed. The first Club banquet was held in 1921 and in 1935 the initial "Agricultural Club Ball" was held. In 1951 these two activities were combined into the annual "Graduation Banquet and Ball", a formal affair honoring the senior class members. It has become a highlight of the social season.

The traditional "Stag", which is presently known as "Feeders Nite", was initiated in 1921. This is an affair for Club members and

members of the Faculty. The public speaking competition for the "MacGregor-Smith Trophy" is the highlight of the evening.

The Agricultural Club and the Home Economics Club have for many years fostered a class relationship. The clubs now stage an annual get-together called the "Ag - House Ec Round-Up". The evening consists of a sleigh ride and a dance and is enjoyed by all who attend.

One of the traditions which had its inception in the early days of the Club is the introduction of freshmen. The practice of initiating freshmen into the Faculty was the first official function of the Club. Each year a "Frosh Introduction Night" is held at which new students have an opportunity to meet professors and other students.

The biggest and best annual dance on campus has grown from a Club Barn Dance of 1947. This dance is now known as "Bar None". Featuring cowboy regalia and serving a large portion of square dancing, this event continues to break attendance records. "Bar None" attracted 1600, 2000, 2500, and 3000 people in the years 1961, 1962, 1963, and 1964 respectively. For three days the campus takes on a western atmosphere, with the whoops and hollers of cowboys and the smell of flapjacks hot off the griddle of the "Bar None" chuckwagon.

This year, to celebrate the Golden Anniversary of the Faculty, special functions are being held in conjunction with Varsity Guest Weekend, which is "open house" at the University. Nearly 15,000 people annually take advantage of this weekend to come to view the progressive results of researchers and the facilities available for students at the University.

"Aggies" can lay claim to being the originators of this mammoth function as it began in 1947 as an Agricultural Field Day. In its earlier days the "Field Day" took the form of a competition within the student body in judging cattle, grain, and soil. In 1950 the Club decided to change this affair into a visitors day. This ambitious project found the "Aggies" conducting tours through the various Agricultural Departments on campus and at the University Farm. The main object was to acquaint large numbers of people, including potential agricultural students, with what agriculture really means on a university campus. This theme remains today as the foundation of Varsity Guest Weekend, but has crossed faculty boundaries to include the entire University.

The "Ag" Club fosters several other activities, both academic and recreational. In 1921 a Student - Faculty Relations Committee was established to act as an avenue of communication between students and faculty. The Club supports the Inter-Provincial Agricultural Conference, which is designed to familiarize the student with agriculture in western Canada and the northwestern United States. The Club participates in exchange weekends with the agricultural students of other universities. In 1964 the Club hosted the "Agros" from the

University of Saskatchewan for a sports weekend. In 1962 the first "Aggie" yearbook, called "The Roundup", was published and has become an annual production. Each year the Club honors students of outstanding academic achievement. The student with the highest academic standing, in each class, has his name recorded on an honor plaque.

The Agricultural Club, as a student organization, has had a long and distinguished career on the campus. It has served as a medium of contact for agriculture students, and in a broader way seeks to create a spirit of goodwill between students in Agriculture and other groups in the University. The activities in which these young people participate provide a common meeting ground for the exchange of ideas and for the development of thoughtful and capable leaders of the future.

In this fiftieth year of the Faculty, the Agricultural Club joins in the Golden Jubilee celebrations, and looks into the future for yet another fifty illustrious years.

Note:

The following students of the Faculty of Agriculture have served as presidents of the Students' Union, University of Alberta:

1921 - 22	Harold Ray Thornton
1923 - 24	John Alexander McAllister
1929 - 30	Donald Cameron
1944 - 45	Alfred Edwin Harper
1948 - 49	Bernard Joseph Bowlen
1960 - 61	Alexander Frederick McCalla

ADDITIONAL NOTES

RE

THE EARLY HISTORY

by

H. R. Thornton

SOME ADDITIONAL NOTES RE THE EARLY HISTORY OF THE FACULTY OF AGRICULTURE

by

H.R. Thornton (Class '22) Professor emeritus, Dairy Science

The years immediately following the First World War were crucial ones in the life of the Faculty of Agriculture and in the relationship of the Agricultural students to the rest of the student body. It was also an important period in the evolution of student government. In the late Dean Howes' notes covering the early years of the Faculty he recorded this: "A minor handicap at the outset was the problem involved in the assimilation of students in Agriculture.... In the first years our students appeared to be a bit sensitive as to their position.... They felt looked down upon...and I had suspicions that there were outside influences that were not disinterested. However, the splendid work by Harold Thornton and Jack McAllister in the matter of reorganization after the war put an end...to those early complexes."

The following notes by Dr. Thornton give an intimate description of some of the developments during that period.

The Editor

SEPARATION

Faint rumblings of an effort to divorce the Faculty of Agriculture from the University were heard for some time following the end of World War I. These broke into a roar during the spring and summer of 1921 and culminated in a Manifesto to the Members of the Legislature dated February 3, 1922 and signed by W.L. Carlyle, G.H. Hutton, and E. Ward Jones. This Manifesto openly proposed separation and presented supporting arguments.

It was at this time that the Farmers' Government came into power and the arguments for an independent College of Agriculture, away from Edmonton and the University and under the control of the Provincial Department of Agriculture, fell on ears inclined to be receptive. Precedent for this type of organization was to be found in Canada in the Ontario Agricultural College and the Manitoba Agricultural College. Naturally the authorities, the staff (and in particular Dean Howes), and the students of the University of Alberta were quite disturbed and, as President of the Students' Union, I was asked to attend the various conferences called to consider methods of resistance to the suddenly applied pressures. The higher echelon of University authorities worked quietly on their opposite numbers in the Government but the students were given a free hand with no restrictions - such being the confidence in the students held by Dr. Tory, the University President.

The Agricultural students to a man jumped into the fight and did valiant work. Special mention should be made of M.B. (Red) McColl for his efforts in this regard as well as for his untiring work in the interests of, not only the Faculty of Agriculture, but the Students' Union as well. Red's brother was an M.L.A. which provided us with "Open Sesame" to most of their rooms in the Corona Hotel, the night-time Mecca of most Members in those days. Red and I spent a great many evenings during the winter of '21 - '22 lobbying in these rooms.

Among the activities of the Agricultural students that winter was the taking over of certain issues of the "Gateway" for the presentation of the pros and cons of the "divorce" proposal. All M.L.A.s, including the Premier and the Cabinet Ministers, were entertained to dinner in Athabaska dining hall and the individual Ag. students, along with many supporters from other Faculties, were given a chance to express their views to the individual representatives from their constituencies. It fell to my lot to address the M.L.A.s and summarize the whole question.

The upshot of the winter's concerted efforts was a resounding rejection of the whole idea of separation with such positiveness that the issue has never again arisen. After graduation, and while employed by a Calgary concern, my immediate superior was Mr. C.C. Thom, a graduate in Chemistry from The Ontario Agricultural College. He confessed to me that, although his name was not on the Manifesto, he was, nevertheless, associated with the three mentioned above in the divorce action and that the group was actuated by what I have no alternative but to label selfish motives. It is to be noted that all four agitators were from the southern part of the Province. It is interesting to note that the Manitoba Agricultural College later amalgamated with the University of Manitoba as a Faculty in that institution and that the Ontario Agricultural College has recently become another Government-supported Ontario university in its own right.

INTEGRATION

Other problems and difficulties faced the Faculty of Agriculture in the early years which, while serious, were minor by comparison and, of course, less urgent or critical.

Up to this time agricultural students were not accepted as bona fide University students by the other students, and perhaps by some of the staff, in the other faculties. The war-veteran freshman class of 1919 was in an advantageous position to rectify this situation. The veterans were more mature in both years and experience than the usual students and the "returned men" in Agriculture had shared their war experiences with the veterans in the other Faculties and had, thus, a common bond with them. So, they consciously took the matter in hand and over a period of years were successful in the establishment of Agriculture as a natural and normal part of the University. There are still, of course, a few staff and students who are pleased to ignore the calibre of agricultural education in this institution, and "look down" on the students and staff of this Faculty. It

has been my experience that these tend to be individuals who themselves could well do some "soul-searching".

The "returned soldier" freshmen in Agriculture in 1919 were amazed, even shocked, that the official yell of the Agricultural Club (each Faculty at that time had an official yell) was in Latin. Practically no Agricultural student could or would learn it and Agriculture had to remain silent at those student affairs at which friendly rivalry took the form, in part, of cat-calls and Faculty yells.

The other Faculties had composed a derisive yell which began:

Aggies, Aggies, B.S.A.
Eat all night. Sleep all day.

During the 1919-'20 session under the influence of the "returned men" The Agricultural Club (Collegium Agricolarum as it was then called) dropped the Latin yell and adopted the "Aggies, Aggies, B.S.A." yell as official. Thus, when the Ags. stertorously and in unison openly actually boasted of their trencherman prowess and its soporific effect, the dagger of contempt and derision was suddenly blunted and Agriculture was given credit for at least a sense of humor, which has been said to be the start and earmark of intelligence.

The veterans in the Faculty of Agriculture suffered from no inferior complexes and participated naturally in the broader affairs of the Students' Union. During the 1921-'22 session Jack McAllister was President of Men's Athletics, Red McColl was Ag. Representative on the Students' Council, and I was elected to the Presidency of the Students' Union. (Jack McAllister was President of the Students' Union in 1923-'24, and was followed some years later by Don Cameron.) So, Agriculture demonstrated a capacity for the responsibilities even of the highest offices in student affairs. Undoubtedly this had not a little to do with the acceptance of Agriculture by both staff and students as an integral and proper part of the University.

THE ACADEMIC GOWN

It has been stated, erroneously, that "none of the Agriculture students ever wore a 'horse blanket'" as the academic gown was sometimes called. At the time I was a student here ALL students, including Agricultural students, were required to wear gowns to lectures and professors were supposed to do likewise. Some professors, especially in the professional Faculties, were inclined to be a little lax in this regard but many in the Faculty of Arts and Science were still wearing them long after I joined the staff in 1929. In 1921-'22 I chaired the meeting of the Students' Union which rescinded the rule regarding the wearing of gowns by students. I am still not clear as to how the Students' Union had authority to rescind what I had always supposed to be a University regulation.

Dean Howes has noted in his records that the academic gown was often

called a "horse blanket": perhaps the origin of this practice should be recorded. Before the end of the First World War a very young and naive, very shy and very overgrown freshman by the name of Bob Gratz was sitting in the front row during the first lecture of the year in Veterinary Science by the Provincial Veterinarian, Dr. Percy Talbot, who had previously known Bob at the Olds School of Agriculture. Dr. Talbot in surprise greeted him with, "Well! Hello Bob. What in the world is that you have on?" Bob in his academic gown muttered, "A bloody horse blanket." To the best of my knowledge this was the origin of the expression.

Big Bob Gratz, as he was known, was looked on as a perennial student and became a campus character beloved by one and all. It was said that he was the inspiration for the Arts rhymester who composed the "Aggies, Aggies, B.S.A." yell.

STUDENT GOVERNMENT

The year 1921-'22 was the turning point in the affairs of the Students' Union and in student government. This was the most crucial session in the whole history of the Students' Union. The history of this matter has never been recorded and despite its extreme importance has been buried already in the limbo of the past. My excuse for its disinterment is that I seem to be the last of those sufficiently closely associated with student problems of that time to remember a few of the details. I feel justified in doing this because of the part that the Students' Union has played in University affairs, which has been made possible only by action taken in 1921-'22.

As the chief executive officer of the Students' Union I was early called to an interview with the University authorities in the fall of 1921. There I was told in no uncertain words that student government was at a crisis and that it was only with much misgiving that it had been decided to give the students one more year in which to demonstrate responsibility. Failure on the part of the students meant the disappearance of student government.

On investigation the Students' Council found that there had been serious incompetency and irresponsibility in the management of student affairs going back at least as far as war-time. The Students' Union faced debts to the extent of \$3,300. This does not seem exorbitant when compared to today's Students' Union budget, but it was almost disastrous in those days for the total revenue of the Students' Union for the session of 1921-'22 was only \$6,600. (I am calling on my memory for these figures and they are, therefore, only approximate.) If today's Students' Union budget were mortgaged by debts to the extent of 50% of the entire revenue, the situation would probably be considered so nearly unbearable by the University that drastic action would be demanded.

But student irresponsibility was not confined to finances, in which even embezzlement was involved. It extended to organization and disciplinary matters as well. It is not surprising that the University looked askance at student government (usually called student self-government in those days but

mis-called so because the elected representatives are not, in the final analysis, responsible to the electors but to the University). When the student body was apprised of this situation and the University's "either or", it got behind its Council enthusiastically and wholeheartedly in the interests of rectification without, as far as I was ever aware, a single dissenting or discordant voice being raised. The record showed that at the end of the session of 1921-'22 the Union was free of debt and actually had a small surplus. It was remarkable that this was accomplished without any noticeable curtailment of the usual activities.

There were a number of acute social and disciplinary problems that year which were handled in exemplary manner. The Students' Court won the confidence and esteem of the student body as did also the residence House Committee under N.E. (now Dr.) Alexander. The Wauneita Society accepted fully its responsibility and the Committee on Student Affairs, on which the student body had adequate representation, was a practical demonstration of the ability of students and staff to settle problems amicably, even matters on which they did not see eye to eye. Mutual respect was a happy result.

STUDENTS' UNION CONSTITUTION

An event took place during 1921-'22 which was the culmination of the work of former years. The Students' Union seems to have operated prior to that time without a constitution, at least in written form. This evoked the interest of Mr. J.D.O. Mothersill, an Edmonton practicing lawyer who was a graduate of the University of Alberta. Over a period of many months Mr. Mothersill developed a written constitution incorporated in a proposed Act to provide for such Constitution of the Students' Union of the University of Alberta. Representatives of the Students' Council collaborated with Mr. Mothersill during the 1921-'22 session and completed a satisfactory constitution. This was passed by The Students' Union and the Committee on Students' Affairs and finally approved by the University Senate before the end of the session. (I have deposited a copy of this constitution in the Archives section of the Cameron Library.)

In all of these varied activities of the Students' Union and its Council the student body stood behind its elected representatives so unanimously and wholeheartedly and with so little bickering and ill-feeling, even on the most controversial questions, that a more happy and satisfying year has probably never been experienced in this University. (While excellent co-operation was displayed by students from all the Faculties, the spirit of enthusiastic co-operation given by agricultural students to their representatives on Council was extraordinary, although probably known only to those representatives.)

There is no doubt that, had the student body not accepted and carried out its responsibilities that year in a manner that dispelled all apprehension in the minds of the University authorities, the University would never have approved officially The Act to Provide for The Constitution

of The Students' Union of The University of Alberta.

So sound were the practices established in The Union that year and so strong the principles adhered to that not only was rapport between authority and students attained but student government became again an accepted fixture and has remained so with certain modifications in detail to this day.

One of the very happiest recollections of my life is of the unanimous and enthusiastic support given by the student body of 1921-'22 to every suggestion for the improvement of student affairs and the untiring efforts of the student representatives in the interests of student government. When the chips are really down, the students of the University are dependable.

HISTORY
OF
VARSITY GUEST WEEKEND

by
Keith Bresee

THE HISTORY OF VARSITY GUEST WEEKEND IN THE FACULTY OF AGRICULTURE

The Faculty of Agriculture has been credited with initiating Varsity Guest Weekend - now a university-wide annual function on the University of Alberta campus. The idea arose from a proposal on February 12, 1946 by Howard Fredeen, a graduate student of agriculture, that a field day be sponsored by the graduate students some time in March. Although the idea didn't get off the ground that year, the following year, 1947, a field day was planned and held on March 15.

The day as organized in 1947, 1948, and 1949 took the form of a judging competition among all students with the exception of seniors. Competitions consisted of judging beef cattle, dairy cattle, grain, soils, weed identification, and involved agricultural engineering. The Field Day was sponsored for the purpose of fostering vocational enthusiasm and to give outsiders a picture of faculty activities. A barn dance in the evening made the day a social success.

In 1950, under the direction of Stan Powers, a student of agriculture, Field Day was reorganized to make it a more fair-type day, to be known as Visitors' Day. This was done in the interests of advertising the faculty. It was proposed that various classes and departments set up a display and that a general theme be accepted. The disadvantages of the old Field Day as outlined by Stan Powers were:

- (1) Field Day was left in the hands of a few.
- (2) It didn't accomplish its objective of advertising the Faculty of Agriculture.
- (3) It didn't teach the students anything new.
- (4) Not enough visitors were attracted.

Although the drill hall became unavailable and displays were not possible that year, tours of the campus, faculty and farm were very successful. Letters of invitation had been written to twenty-five organizations and high schools within a radius of 100 miles. A special tour was held for M.L.A.'s in the morning. Refreshments were served all day.

Visitors' Day did its first spreading outside the faculty that year (1950) as the Household Economics girls arranged tours of their school in conjunction with the Agricultural Club.

Visitors' Day received headlines in the Gateway that year and was billed as follows:

"The purpose of this day is to provide an opportunity for students from high schools and schools of agriculture to visit the campus and see what is being done here. In general, it is expected that the public will be well represented."

The public was well represented and the success of the day didn't go unrecognized. A letter from Robert Newton, who at that time was President of the University, to Stan Powers bears this out. The letter body was as follows:

"I would like to congratulate very heartily you and your colleagues on the splendid success of your Visitors' Day.

"This was a fine piece of public relations work for the University as a whole as well as for the Faculty of Agriculture. The initiative and organizing capacity displayed by the Agricultural Club are a source of much gratification to the administration of the University."

In 1951, having received full recognition as a very worthy event, a grant was received from the University. Also, donations were received from commercial firms to provide a lunch for the people on Visitors' Day.

A very complete day was planned under the direction of Ron Harvie and included a film, displays by the various departments, and tours of the campus and farm. A program booklet outlining the displays and events of the day was printed and made available for the convenience of the visitors. It contained this passage:

"In past years when the Field Day took the form of a competition within the student body, prizes were donated by various organizations and industries connected with agriculture. This had the advantage of bringing the students and various organizations together. Visitors' Day is an opportunity to keep citizens of Alberta informed about what the Faculty of Agriculture is doing in return for public support. It has been estimated that the entire cost of the Faculty of Agriculture - indeed the cost of the whole University of Alberta - has been repaid several times by the work of graduates in Agriculture." Fifteen hundred people visited the campus that year.

In 1952 Visitors' Day went campus wide. Having achieved such a high degree of success the two years previous, the following questions were asked with the intention of assuring a successful future within the Faculty of Agriculture:

- (1) Should the Agriculture Visitors' Day be combined with other faculties?
- (2) Should the visitors guide themselves providing signs and maps of the tour be set up?
- (3) Should the Visitors' Day be held yearly or would this result in decreases in crowds?
- (4) Should areas such as Lethbridge and Brooks be invited to attend the Visitors' Day providing accommodation be made? In these areas, commercial firms would sponsor a bus and send a group to the University of Alberta.

Students were urged to invite their parents for the weekend.

Visitors' Day was again a big success and acknowledged as such by the new Varsity Guest Weekend campus committee. Due to some failings on the

campus wide scale, this committee suggested that in future years organization and management committees should have the same set up as the "Ag Club" Visitors' Day committee. Also, it was agreed that in succeeding years the "Ag Club" displays would be a part of Varsity Guest Weekend, rather than on a competitive basis.

It can be stated that in general the period of development of Varsity Guest Weekend from Field Day through Visitors' Day terminated in this year. Now, Varsity Guest Weekend is a highly successful campus event. It can claim considerable credit for the fact that instead of decreasing as it was in 1952, university registration is now soaring.

In the Faculty of Agriculture there have been, since 1952, many proposals for improvement and expansion. Students should be sent out to High Schools to speak in the interest of encouraging students to enroll in Agriculture at the University of Alberta was the suggestion made in 1953. In 1954 the "one theme concept" was again emphasized. It was agreed that in previous years there were too many displays and consequently they wouldn't be seen. Also, each phase of the work done in Agriculture was presented as a separate entity which it really is not. Varsity Guest Weekend went off the campus in 1956 when an "Ag" display was placed in the window of Woodward's. Also that year, Vermilion School of Agriculture and Olds School of Agriculture basketball teams were invited to Edmonton.

The success of Varsity Guest Weekend can be attributed to the consideration and instigation of proposals such as these. This historical outline gives some idea of the wide variety of forms the day took whether it be called Field Day, Visitors' Day, or Varsity Guest Weekend. Through discussion, action, revision, and success the many Agriculture classes since 1947 have created a weekend vital to the University.

Keith Bresee

Note: Mr. Bresee is a fourth year student.

REPORT
FIFTIETH ANNIVERSARY COMMITTEE

by
J. P. Bowland
Chairman

REPORT OF THE FIFTIETH ANNIVERSARY COMMITTEE

The Golden Jubilee of the Faculty of Agriculture, University of Alberta, was celebrated during 1965. Throughout the year numerous events were planned and carried to a successful completion making the year one to be remembered by alumni and staff of the faculty.

In the fall of 1963 a committee consisting of J.P. Bowland, chairman; W.T. Andrew, vice-chairman; and S. Pawluk, secretary was set up to prepare a program for the Golden Anniversary year. The following subcommittee chairmen were appointed and must take much credit for the success of the celebrations: finance, D.R. Clandinin; publicity, J.A. Robertson; reunion, W.E. Smith; publications, L.P.V. Johnson; archives, W.E. Bowser; convocation, F.V. MacHardy; liaison with other organizations, W. Combs; and liaison with the Alumni Association, C.L. Usher.

A partial list of activities which is given below cannot adequately describe the importance of the Jubilee to former students in the faculty. The reunion activities were built around Varsity Guest Weekend which originated in the Faculty of Agriculture. The Alumni Homecoming Banquet and Ball honored the graduates in agriculture and was well attended by the agricultural alumni. The toast to the Golden Class was proposed by Dr. Elwood Stringam, a member of the Faculty of Agriculture Silver Class of 1940. Special displays were prepared for the occasion and these brought back many memories. A luncheon sponsored by the AIA - AIC at the Faculty Club was an outstanding, if somewhat crowded, success.

A feature article "The First Fifty Years as Five Deans Found Them" in the fall, 1964 issue of "The New Trail" honored the Faculty of Agriculture and gave our anniversary a head start. The "Agriculture Bulletin" for 1965 was a special Golden Anniversary 1915-1965 issue with a series of articles on the faculty's first years. To preserve this history, each department head prepared a historical outline of his department and this material, along with other appropriate information, has been bound for permanent reference in this history of the faculty.

Correspondence with alumni during the year redeveloped a closer affinity for the faculty. Many letters from alumni and former staff expressed their appreciation of and interest in being associated with the faculty and many who could not attend the reunion sent their best wishes. At the spring convocation honorary degrees were awarded to two outstanding agricultural graduates from the University of Alberta: Dr. J.A. Anderson, Director-General of the Research Branch, Canada Department of Agriculture, and Mr. A.W. Platt, Executive Secretary for the United Farmers of Alberta Cooperative.

This anniversary year could not have been the success that it was without financial support from the University of Alberta, from numerous firms and organizations associated with agriculture, and from the General Alumni Association. Because of this outstanding support a small fund was made available for matriculation scholarships for entrance to the Faculty of Agriculture in 1965.

Agricultural alumni have celebrated a successful fifty years. They can look ahead with pride to the next fifty years.

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